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TENNESSEE STATE DEPT OF CONSERVATION NASHVILLE DIV 0--ETC F/G 13/13
NATIONAL PROGRAM OF INSPECTION OF NON-FEDERAL DAMS, TENNESSEE. --ETC(11)
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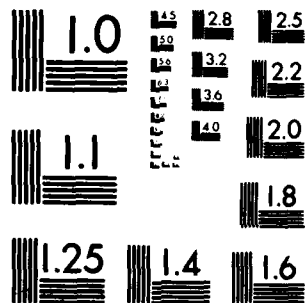
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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO. AD-A108251	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) National Program of Inspection of Non-Federal Dams Tennessee. McNairy Cypress Creek Watershed Dam No. 17 (Inventory Number TN 10908) near Selmer, Tennessee, McNairy County, TN., Tuscumbia River Basin		5. TYPE OF REPORT & PERIOD COVERED Phase 1 Investigation Report
7. AUTHOR(s)		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS Tennessee Department of Conservation Division of Water Resources 4721 Trousdale Dr., Nashville, TN. 37220		8. CONTRACT OR GRANT NUMBER(s) DACW-62-81-C-0056
11. CONTROLLING OFFICE NAME AND ADDRESS U.S. Army Engineer District, Nashville P.O. Box 1070 Nashville, TN. 37202		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE September, 1981
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19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Dams McNairy County, TN. Dam Safety Embankments National Dam Safety Program Visual Inspection McNairy Cypress Creek Watershed Dam No. 17, TN. Structural Analysis Selmer, TN.		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) McNairy Cypress Creek Dam #17 is located in McNairy County, Tennessee about 0.5 miles east of Selmer. The dam is an earthfill embankment 34.1 feet high and 960 feet long with a crest width of 15 feet. The dam impounds a 13 acre lake. The service spillway is a cast in place, 2 stage concrete riser leading to a 30 inch reinforced concrete pipe with an SCS standard impact basin. The drawdown drain is a 18" gated orifice at the base of the riser. The emergency spillway is an 82 foot wide trapezoidal earth saddle on the left abutment. The embankment slopes are 1V:2.9H on the upstream slope with a berm 26 feet		

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below the crest. The downstream slope has a berm 20 feet below the crest. The downstream slope above the berm is 1V:2.9H and 1V:2.6H below the berm. Both slopes have a dense grass cover. The dam is in the small size category and has a downstream hazard potential classification of "high" under OCE guidelines and category "I" by the State of Tennessee. On the basis of hydraulic analysis, the dam has adequate storage/spillway capacity to pass the 1/2 probable maximum flood (PMF) under antecedent moisture condition III (AMC III). The 1/2 PMF is the minimum storm required under OCE guidelines for a dam in the small size and high hazard potential classifications. The dam is considered "not-deficient" and is recommended that any erosion be repaired and a soil binding grass cover established on the embankment.

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DEPARTMENT OF THE ARMY
NASHVILLE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1070
NASHVILLE, TENNESSEE 37202

21 SEP 1981

IN REPLY REFER TO

ORNED-G

Honorable Lamar Alexander
Governor of Tennessee
Nashville, TN 37219

Dear Governor Alexander:

Furnished herewith is the Phase I Investigation Report on McNairy Cypress Creek Watershed Dam No. 17 near Selmer, Tennessee. The report was prepared under the authority and provisions of PL 92-367, the National Dam Inspection Act, dated 8 August 1972.

The report presents details of the field inspection, background information, technical analyses, findings, and recommendations for improving the condition of the dam.

Based upon the inspection and subsequent evaluation, this dam is classified as not deficient at this time. The dam is judged stable, with no apparent seepage and a good grass cover on the embankment. Only minor surface erosion exists at the downstream slope.

As required for a dam such as this in the small size and high hazard category, this dam is capable of safely passing the one-half probable maximum flood.

The present maintenance program should be continued and the erosion problem and any future erosion should be corrected.

Public release of the report and initiation of public statements fall within your prerogative. However, under provisions of the Freedom of Information Act, the Corps of Engineers is required to respond fully to inquiries on information contained in the report and to make it accessible for review on request.

Your assistance in keeping me informed of any further developments will be appreciated.

Sincerely,

Lee W. Tucker
LEE W. TUCKER
Colonel, Corps of Engineers
Commander

1 Incl
As stated

CF:
Mr. Robert A. Hunt, Director
Division of Water Resources
4721 Trousdale Drive
Nashville, TN 37220


PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM

Name of Dam McNairy Cypress Creek
Watershed Dam #17
County McNairy
Stream Wolf Branch
Date of Inspection March 9, 1981

Prepared By:


George E. Moore
Regional Engineer

Approved By:


Edmond B. O'Neill
Chief Engineer
Safe Dams Section

Approved By:



Robert A. Hunt, P.E.
Director, Division of
Water Resources,
Tennessee Department
of Conservation

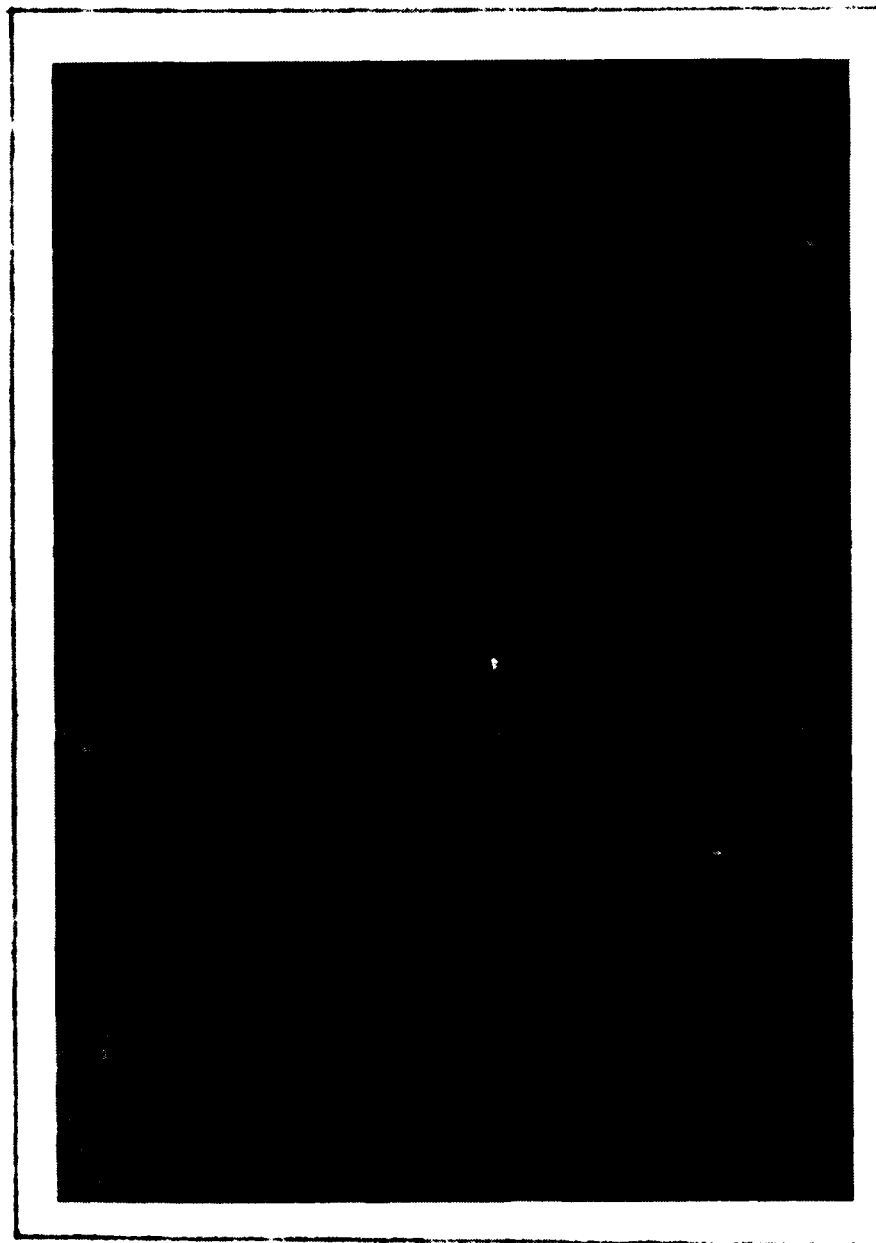
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OVERVIEW PHOTOGRAPH

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM

Name of Dam McNairy Cypress Creek
Watershed Dam #17

County McNairy

Stream Wolf Branch

Date of Inspection March 9, 1981

ABSTRACT

McNairy Cypress Creek Dam #17 is located in McNairy County, Tennessee, about 0.5 miles east of Selmer. The dam is an earthfill embankment 34.1 feet high and 960 feet long with a crest width of 15 feet. The dam impounds a 13 acre lake. The service spillway is a cast in place, 2 stage concrete riser leading to a 30 inch reinforced concrete pipe with an SCS standard impact basin. The drawdown drain is a 18" gated orifice at the base of the riser. The emergency spillway is an 82 foot wide trapezoidal earth saddle on the left abutment.

The embankment slopes are 1V:2.9H on the upstream slope with a berm 26 feet below the crest. The downstream slope has a berm 20 feet below the crest. The downstream slope above the berm is 1V:2.9H and 1V:2.6H below the berm. Both slopes have a dense grass cover.

McNairy Cypress Creek Dam #17 is in the small size category and has a downstream hazard potential classification of "high" under OCE guidelines and category "1" by the State of Tennessee.

↓ On the basis of hydraulic analysis, the dam has adequate storage/spillway capacity to pass the $\frac{1}{2}$ probable maximum flood (PMF) under antecedent moisture condition III (AMC III). The $\frac{1}{2}$ PMF is the minimum storm required under OCE guidelines for a dam in the small size and high hazard potential classifications.

↙ At this time, the dam is considered not deficient. It is recommended that any erosion be repaired and a soil binding grass cover established on the embankment.

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM
MCNAIRY CYPRESS CREEK WATERSHED DAM #17
MCNAIRY COUNTY, TENNESSEE

SECTION 1 - GENERAL

- 1.1 Authority - The Phase I inspection of this dam was carried out under the authority of Tennessee Code Annotated, Sections 70-2501 to 70-2530, The Safe Dams Act of 1973, and in cooperation with the U. S. Army Corps of Engineers under the authority of Public Law 92-367, The National Dam Inspection Act.
- 1.2 Purpose and Scope - The purpose of a Phase I investigation is to develop an engineering assessment of the general condition of a dam with respect to safety and stability. This is accomplished by conducting a visual inspection; reviewing any available design and construction data; and performing appropriate hydraulic, hydrologic, and other analyses. A comprehensive description of the Phase I investigation program is given in Recommended Guidelines for Safety Inspection of Dams, Department of the Army, Chief of Engineers, Washington, D. C. 20314.
- 1.3 Past Inspections - No prior inspections have been made by this office.
- 1.4 Miscellaneous Details - The day of the inspection was clear with calm winds and an ambient temperature of about 55° F.
- 1.5 Inspection Team Members - The inspection was conducted by the following State personnel:

Ed O'Neill, Chief Engineer
George Moore, Regional Engineer
Anthony Privett, Engineering Co-op

SECTION 2 - PROJECT DESCRIPTION

- 2.1 Location - The project is located in McNairy County, Tennessee, about 0.5 miles east of the city limits of Selmer, Tennessee. The dam is located on the Purdy topographic quadrangle at 88°32'33" east longitude and 35°10'04" north latitude. Location maps are provided in Appendix B of this report. The dam intercepts Wolf Branch of Crooked Creek about 3.5 miles from its confluence with Cypress Creek in the Hatchie River Basin.
- 2.2 Description - (The following data was obtained from a review of SCS furnished design plans. See Section 3.2 for further description.)
- 2.2.1 Embankment - The dam is a linearly aligned zoned earth embankment structure 34.1 feet high. The crest is 15 feet wide and 987 feet long. The downstream slope is 1V:3H. The upstream slope is 1V:3H with 10 foot berms at elevations 478.5' msl and 475.8' msl. Riprap has been placed on the upstream slope for wave protection. The upstream zone of the embankment is composed of CL and ML material (Unified Soils Classification System). The downstream zone is SC and SM material. The fill for the keyway and the core of the dam is CH and MH material.

A trench drain has been provided under the downstream toe to collect seepage through the embankment and foundation. The trench is filled with sand graded to gravel and is drained by a 6 inch perforated asbestos cement pipe.

The valley bottom at the dam site is in the Mississippi River floodplain alluvial deposits of the Quaternary Period. The abutments and the area upstream of the dam enter into the sandy clays in the Coon Creek formation of the Cretaceous Period. The alluvial deposits are poorly sorted, unstratified sands, silts, clays, and fine quartz pebbles. The Coon Creek formation is fine grained sandy clay with thin beds and cross beds of glauconitic sand. Lower parts have terminal Montmorillinitic layers laminated with thin sand partings and thin discontinuous bedding of sideritic concretions. Upper layers are white sands and clays with a leached appearance.

2.2.2 Service Spillway - The service spillway has a 2 stage concrete riser. The winter low stage inlet is an 18 inch by 12 inch rectangular orifice at elevation 474.8' msl and the summer low stage inlet is an 18 inch by 15 inch rectangular orifice at elevation 477.5' msl. Both low stage openings are controlled by 18 inch square slide gates. The high stage inlet is two 7'6" by 3'2" openings at elevation 483.5' msl. The riser leads to a 30 inch diameter reinforced concrete pipe. The pipe meets the requirements of AWWA Specification C-301. A concrete impact structure has been provided at the outlet. The maximum capacity of the service spillway is estimated to be 115 cfs.

2.2.3 Drawdown Drain - The drawdown drain is an 18 inch diameter orifice controlled by an 18 inch square slide gate on the upstream side of the service spillway riser. The inlet elevation is 465.5' msl.

2.2.4 Emergency Spillway - The emergency spillway is an uncontrolled vegetated earth saddle on the left abutment. The spillway has a trapezoidal cross section with a 93 foot base and side slopes of 3H:1V. The crest of the spillway is at elevation 487.1' msl giving a maximum head of 6.9 feet. The control section is 50 feet long. The entrance channel has a slope of 0.5% and the exit slope is 2.5%. The maximum capacity of the emergency spillway is about 4500 cfs.

2.2.5 Reservoir and Drainage Area - At the normal pool elevation of 477.5' msl, the reservoir has a surface area of 13 acres and a fetch of 1100 feet. At the top of the dam the pool would be 33 acres and the capacity would be 507 acre-feet (461 acre-feet above normal pool).

The drainage area is 621 acres. The maximum relief is about 130 feet and the longest watercourse is 6800 feet. The predominant soil types are Shubuta, Cutbert, and Dulac. The major land use is woods.

2.2.6 Downstream Hazard Potential - This dam has a downstream hazard potential classification of high (1). Wolf Branch enters Crooked Creek about 1500' downstream of the dam. Ten houses are located along

Crooked Creek. Crooked Creek crosses U. S. Hwy 45 about 2.5 miles downstream of the dam and an ICG Railroad 3.4 miles downstream of the dam. The dam was designed under SCS Class C criteria.

2.2.7 Miscellaneous - The dam is located on the property of Leonard M. Atkins and wife under an easement to the McNairy Cypress Creek Watershed District and the McNairy County Commission. The dam was built as a floodwater detention and sediment storage facility under PL-566. The work was performed under the auspices of the USDA Soil Conservation Service with Prather-Thomas-Campbell and Pridgeon, Inc. as engineer and Chancellor and Son Construction Company as contractor. Work was completed in 1979.

SECTION 3 - FINDINGS

3.1 Visual Inspection

3.1.1 Embankment - The embankment appeared in generally good condition with no bulges, slumps, cracks, or differential settlement. Minor rilling has occurred along the downstream slope. Gullies about 6 to 8 inches deep have formed along the embankment abutment contacts. The upstream slope has some minor damage from motorcycles and four wheel drives. The riprap is providing adequate wave protection. The grass covering needs improvement on some areas of the downstream slope, but otherwise appears in good condition.

3.1.2 Service Spillway - The service spillway was free of debris and operating properly. No cracking or spalling was seen on the riser or impact structure. The spillway culvert was inaccessible.

3.1.3 Emergency Spillway - Minor erosion has occurred on the slopes of the spillway. A few ruts, caused by motorcycles and other vehicles, were found in the channel.

3.1.4 Drawdown Facility - The drawdown valve was not operated during the inspection. The handwheel had been removed from the lift mechanism.

3.1.5 Downstream Channel - The downstream channel was clear with no major obstructions or significant erosion.

3.1.6 Reservoir and Drainage Area - The drainage area has undergone no appreciable changes since construction of the dam. There was no visually discernible evidence of excessive siltation or accumulation of debris in the reservoir.

3.2 Review of Data - Design and as built plans and hydrologic design calculations have been supplied by the SCS. A field check of the dam indicates that the base width of the emergency spillway is about 10 feet less and the spillway crest elevation is 0.4' higher than on the design plans. The top of the dam elevation is 1.3 feet higher than required on the plans. The dam otherwise appears

to be in substantial compliance with the plans. Plans are provided in Appendix F and hydrologic data are in Appendix E.

- 3.3 Static and Seismic Stability - No overt signs of instability were observed. The dam is located in Seismic Zone 1. No analysis of the embankment stability was available. Under this program, dams in Seismic Zone 1 are considered to be adequate under seismic loads if judged to meet static stability requirements.
- 3.4 Hydraulics and Hydrology - Under OCE guidelines, dams in the small size and high hazard potential categories are required to pass the one-half to the full PMF. A review of SCS design calculations shows that the dam will pass the AMC II PMF. Routing of the AMC III PMF indicates that the dam will be overtopped for 0.66 hours with a maximum depth of 0.4 feet. The AMC III $\frac{1}{2}$ PMF will pass with 3.7 feet of freeboard. For an additional explanation of the hydraulic and hydrologic calculations, see Appendix E.

The 6-hour and 10-day 100-year storms were routed through the dam. Both storms passed with no flow in the emergency spillway. The 10-day 100-year storm was used by the SCS design engineers to set the emergency spillway crest at 487.1' msl.

3.5 Conclusions and Recommendations

3.5.1 Conclusions

a. The dam will pass the required storm and is therefore considered to be adequate with respect to hydraulic and hydrologic considerations.

b. No overt signs of instability were observed and, since the dam is in Seismic Zone 1, the dam is considered to be adequate to meet both static and seismic stability requirements.

c. Except for minor rilling and inadequate grass cover on the downstream slope, the dam and its appurtenances appear to be in good condition. The dam is, therefore, considered to be "not deficient".

3.5.2 Recommendations

a. Erosion should be repaired as needed and grass cover adequate to stabilize the soil surface established and maintained.

b. All vehicles should be restricted from the slopes of the embankment and the spillways.

c. A program of routine maintenance and periodic inspection should be established for the dam.

d. An emergency action plan should be developed to notify downstream residents should any potentially hazardous situations arise.

SECTION 4 REVIEW BOARD FINDINGS

The Interagency Review Board for the National Program of Inspection of Non-Federal Dams met in Nashville on 27 August 1981 to examine the technical data contained in the Phase I investigation report on McNairy Cypress Creek Watershed Dam No. 17. The Review Board considered the information and recommended that (1) all vehicles should be prohibited from driving on the embankment, and (2) the design routing attached to the report is to be verified to assure that present conditions are reflected in the computations. They agreed with other report conclusions and recommendations. A copy of the letter report presented by the Review Board is included in Appendix G.

**APPENDIX A
DATA SUMMARY**

APPENDIX A
DATA SUMMARY

A.1 Dam

A.1.1 Type - Zoned earthfill, linear alignment dam with a concrete pipe service spillway and drawdown drain, and a vegetated earth emergency spillway.

A.1.2 Dimensions and Elevations (taken from as built plans; field measurements shown parenthetically)

- a. Crest length - 960' (984')
- b. Crest width - 15' (19')
- c. Height - 34.1' (35.5')
- d. Crest elevation - 495' msl (496.3')
- e. Service spillway elevations:
 - Low stage summer - 477.5' msl
 - Low stage winter - 474.8' msl
 - High stage - 483.5' msl
- f. Emergency spillway elevation - 487.1' msl (487.5')
- g. Embankment slope, U/S - 1V:3H (1V:3.4H)
- h. Embankment slope, D/S - 1V:3H (1V:2.9H)
- i. Size classification - Small

A.1.3 Zones, Cutoffs, Grout Curtains

A.1.3.1 Zones (Fill material given as per Unified Classification System)

- a. Core slopes - 1V:1.5H
- b. Core top elevation - 492' msl
- c. Core materials - MH, CH
- d. U/S zone materials - CL, ML
- e. D/S zone materials - SC, SM

A.1.3.2 Cutoffs

- a. Bottom elevation - 457.5' msl
- b. Base width - 12'
- c. Fill materials - MH, CH

A.1.3.3 Grout Curtains - None

A.1.4 Foundation Drain - Two stage graded sand and gravel filter drained by a 6-inch perforated asbestos concrete pipe.

A.1.5 Instrumentation - None

A.1.6 Operation and Maintenance - Section 70-1801 through 70-1849 of the Tennessee Code Annotated (Watershed District Act of 1955) provides for the establishment of the Watershed Districts and the Watershed District Boards. Easement rights for the construction of the McNairy Cypress Creek Dam were obtained by the Board from the local property owners. The extent of ownership retained by the individuals is being negotiated, with the stipulation (Section 70-1847) that the Board has full operation and maintenance authority.

According to the SCS District Conservationist, the Watershed District is to make periodic inspections of the dams as needed and at least annually to determine any remedial measures needed.

A record of the inspections and maintenance operations is to be kept on file and will be available for use by representatives of the SCS. Specific maintenance agreements are to be executed prior to the construction of structural works of improvement.

A.2 Reservoir and Drainage Area

A.2.1 Reservoir (Normal pool elevation 477.5' msl)

- a. Surface area - 13 acres
- b. Fetch - 1100 feet
- c. Capacity (normal pool) - 66 acre-feet
- d. Capacity (top of dam) - 507 acre-feet

A.2.2 Drainage Area

- a. Size - 621 acres
- b. Maximum relief - 130 feet
- c. Soils - Shubuta, Cuthbert, Dulac
- d. Cover - woods
- e. Runoff (P₁₀₀ AMC III) - 197 acre-feet
- f. Runoff (PMP AMC II) - 1312 acre-feet

A.3 Outlet Structures

A.3.1 Drawdown Drain (Slide gate at base of service spillway riser)

- a. Inlet diameter - 18 inches
- b. Inlet elevation - 465.5' msl

A.3.2 Service Spillway (Cast in place concrete riser leading to reinforced concrete pipe with concrete anti-seep collars)

- a. Pipe diameter - 30 inch
- b. Pipe gradient - Approx. 2%
- c. Anti-seep collars size - 9" x 11' x 7'9"
- d. Anti-seep collars number and spacing - 6 @ 17'
- e. High stage inlet - 2 @ 7'6" x 3'2"
- f. Summer low stage - 1 @ 18" x 15"
- g. Winter low stage - 1 @ 18" x 12"
- h. Maximum capacity - 115 cfs

A.3.3 Emergency Spillway (Trapezoidal, vegetated earth saddle on the left abutment)

- a. Base width - 93 feet (82')
- b. Side slopes - 1V:3H (1V:3.4H rt.; 1V:4.2H lt.)
- c. Control section length - 50 feet
- d. Entrance slope - 0.5% (0.4%)
- e. Exit slope - 2.5% (2.2%)
- f. Maximum capacity - 4500 cfs

A.4 Historical Data

A.4.1 Construction Date - 1979

A.4.2 Designer - Prather-Thomas-Campbell and Pridgeon, Inc.

A.4.3 Builder - Chancellor and Son Construction

A.4.4 Owner - McNairy County Commission

**A.4.5 Funding and Engineering Approvals - USDA
Soil Conservation Service under PL-566**

A.4.6 Seismic Zone - 1

A.5 Downstream Hazard Data

A.5.1 Downstream Hazard Potential Classification

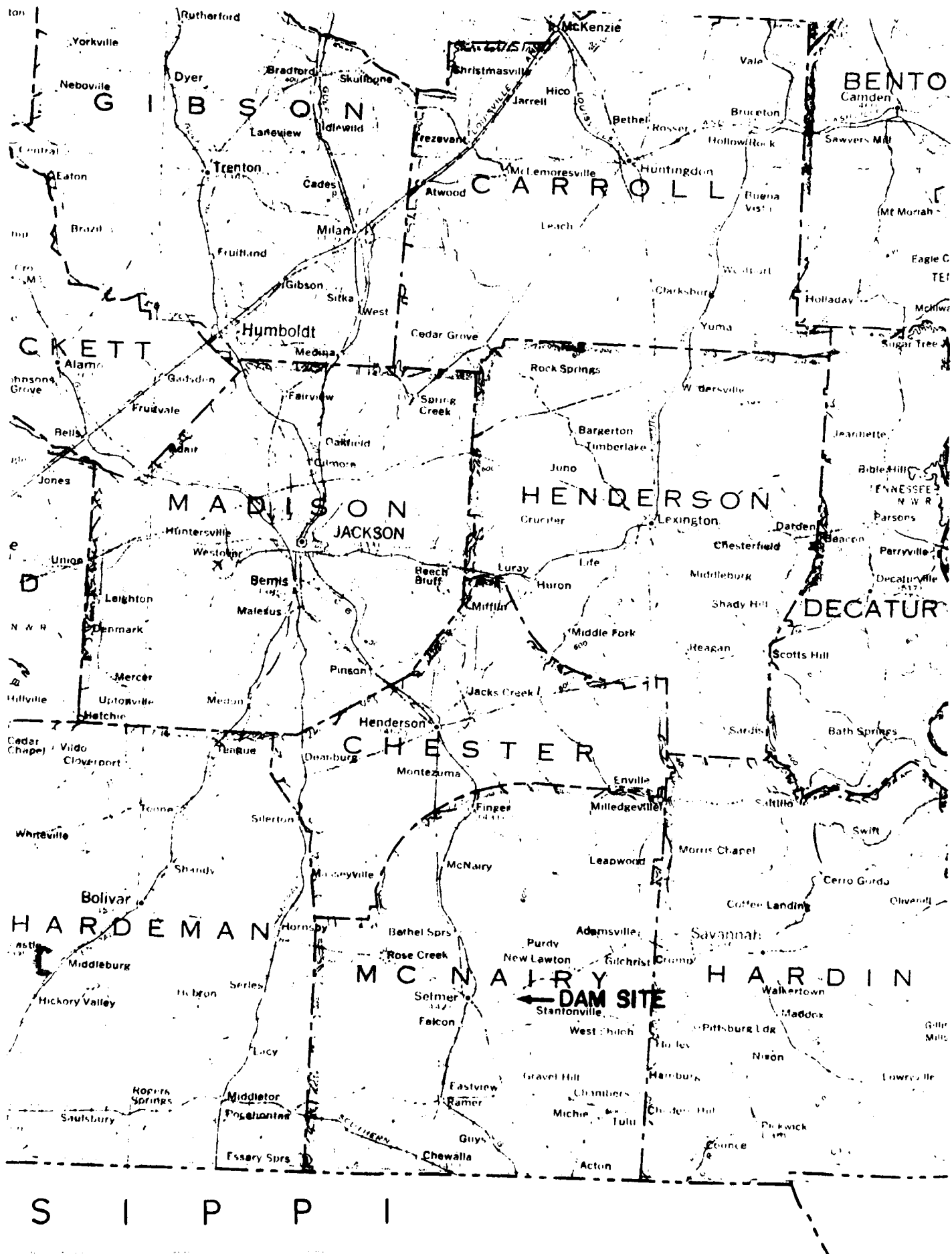
- a) Corps of Engineers - High
- b) State of Tennessee - 1

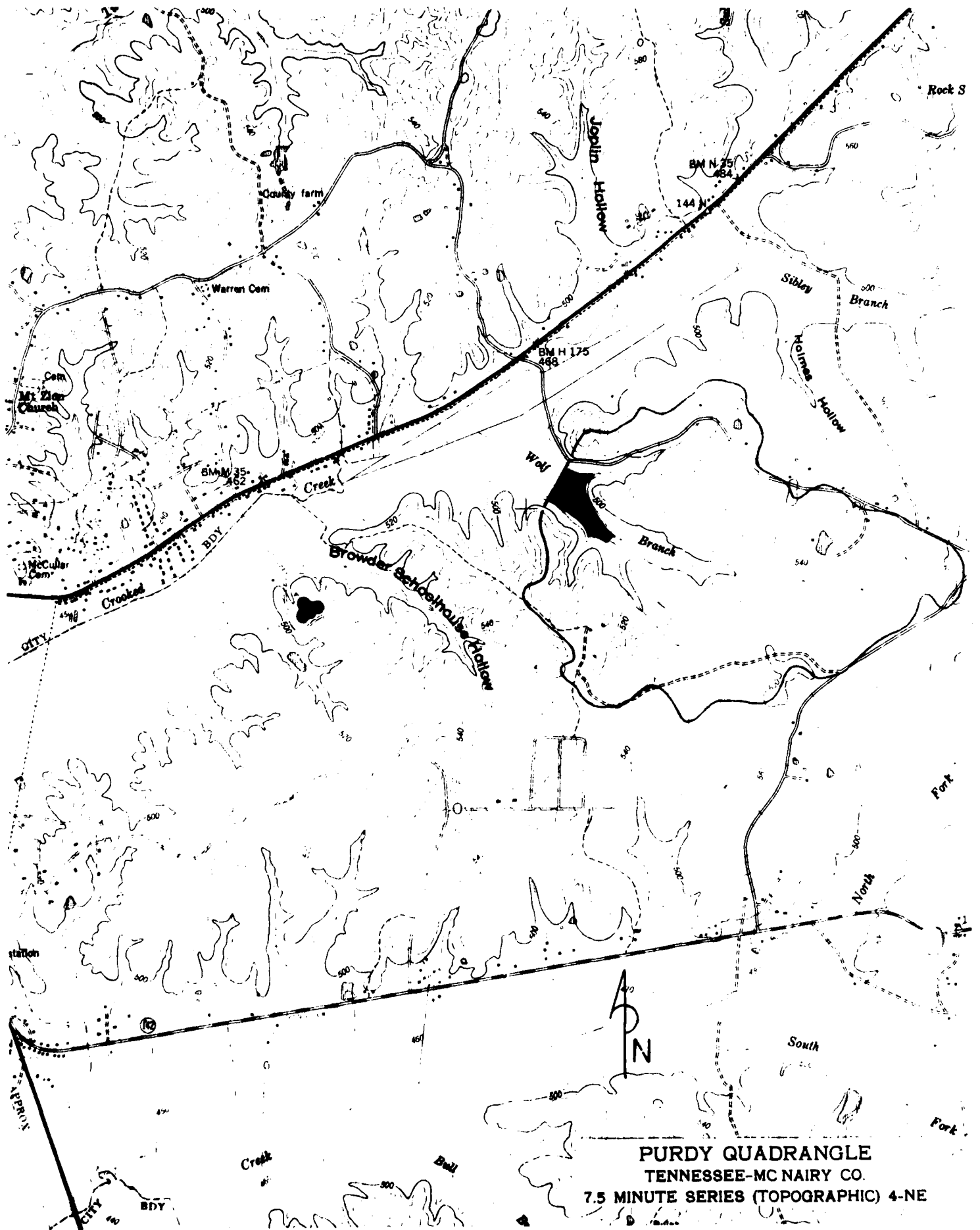
A.5.2 Persons in Probable Flood Path - 30+

A.5.3 Downstream Property - 10+ houses.

A.5.4 Warning Systems - None

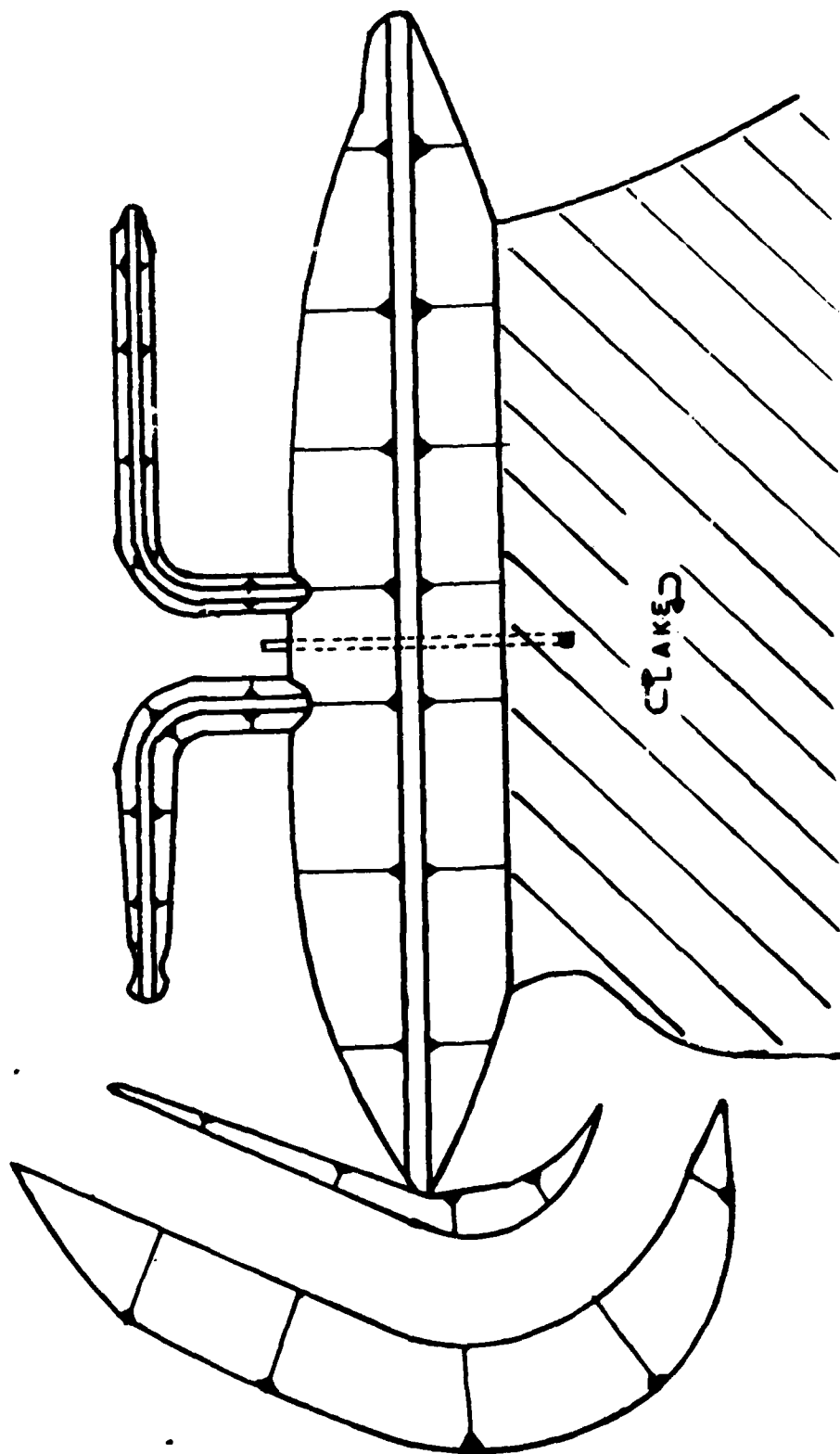
APPENDIX B
SKETCHES AND LOCATION MAPS



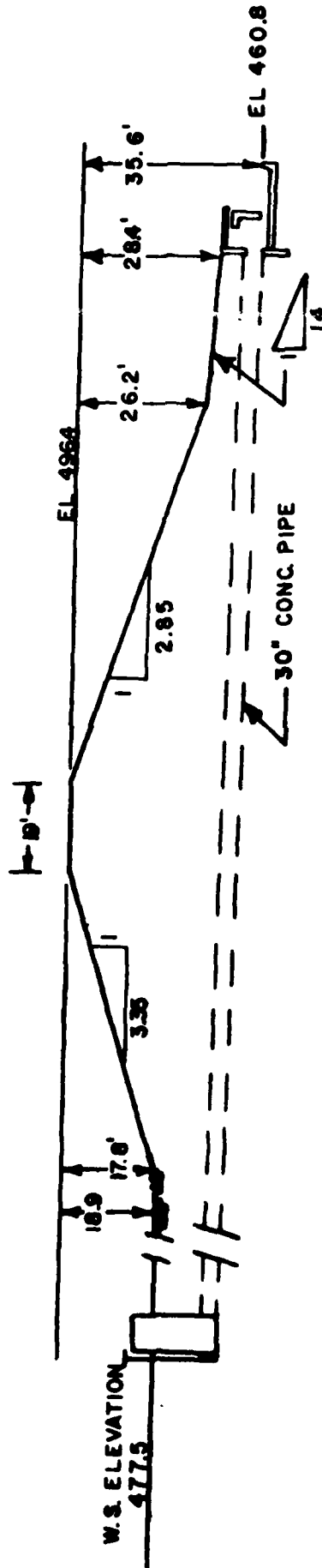


PURDY QUADRANGLE
TENNESSEE-MC NAIRY CO.
7.5 MINUTE SERIES (TOPOGRAPHIC) 4-NE

MENAIY CYPRESS
CREEK
DAM NO. 17

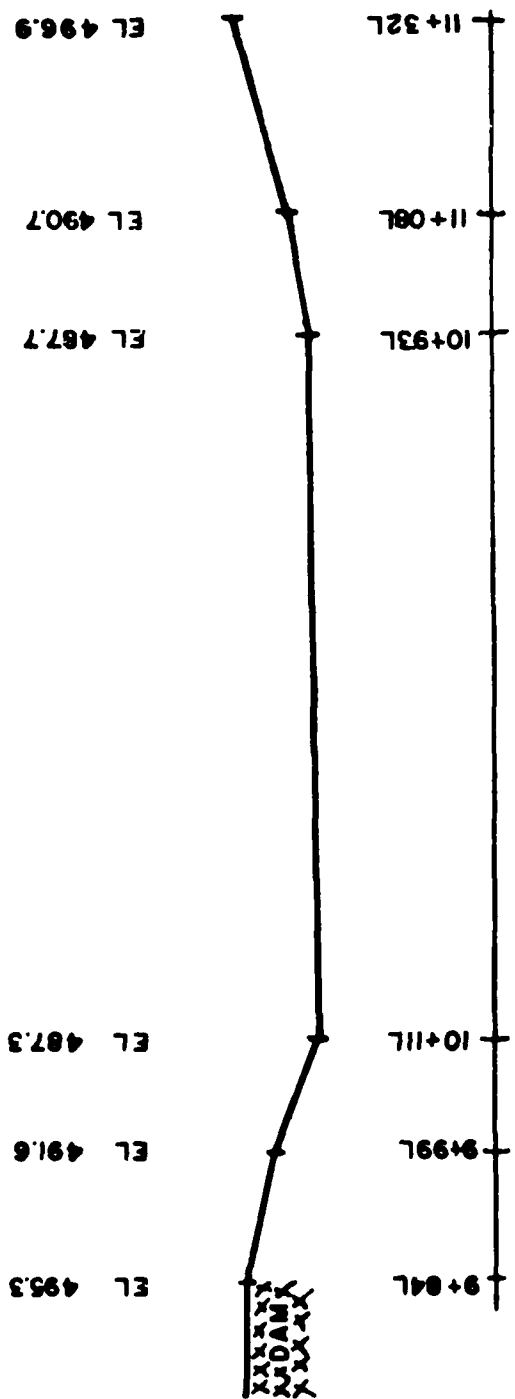


PLAN VIEW



MAXIMUM SECTION
SCALE 1" = 30'

McNAIRY CYPRESS CREEK DAM NO. 17	DRAWN BY: ADP DATE: 7/7/81 SHEET: 1 OF 4
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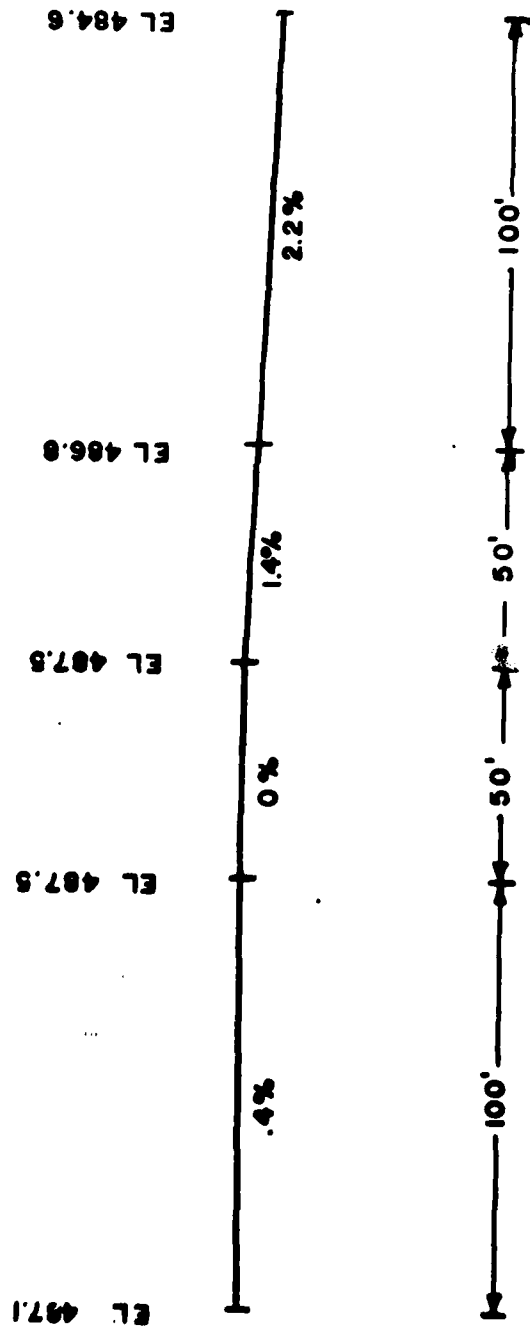


EMERGENCY SPILLWAY CONTROL SECTION

SCALE 1"=20'

McNAIRY CYPRESS CREEK DAM NO. 17	
DRAWN BY: ADP	DATE: 7/9/81
SHEET: 2 OF 4	

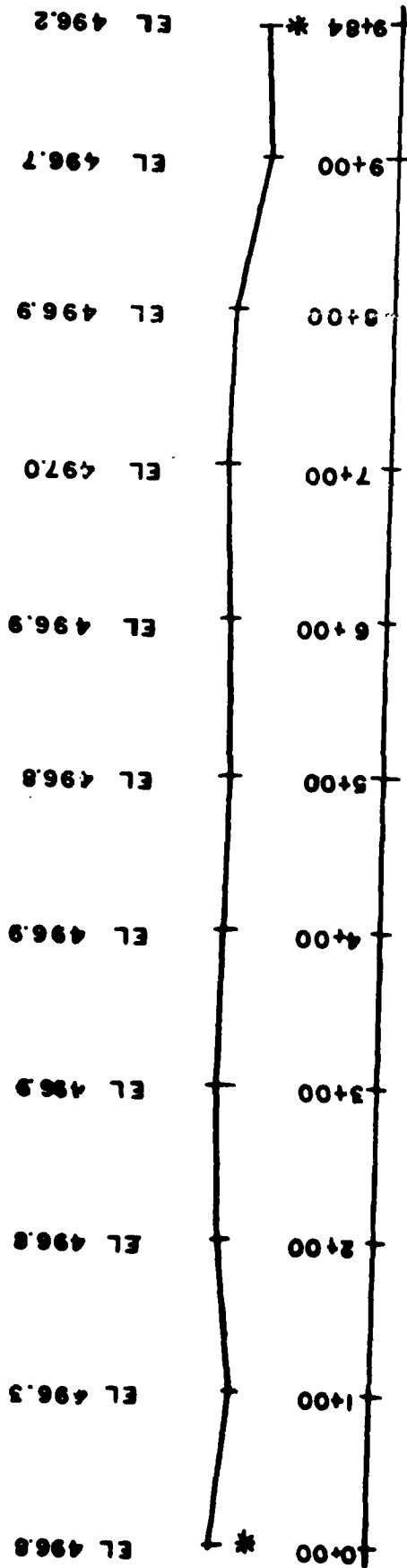
NOTE: CONTROL SECTION
30' D/S OF CREST E



EMERGENCY SPILLWAY PROFILE

H. SCALE 1" = 40'
V. SCALE 1" = 20'

McNAIRY CYPRESS CREEK DAM NO. 17	
DRAWN BY ADP	DATE 7/8/81
SHEET 3 OF 4	



CREST & PROFILE
 H. SCALE 1"=100'
 V. SCALE 1"=10'

McNAIRY CYPRESS CREEK	
DAM NO. 17	
DRAWN BY ADP	DATE 7/8/81
SHEET 4 OF 4	

* END OF DAM

APPENDIX C
PHOTOGRAPHIC RECORD

PHOTOGRAPHIC RECORD

Photo No. 1 - Information plaque.

Photo No. 2 - The crest of the dam from the right abutment.

Photo No. 3 - The upstream slope from the right abutment.

Photo No. 4 - The upstream slope showing what appears to be a recent high water mark.

Photo No. 5 - The downstream slope from the right abutment.

Photo Nos. 6 & 7 - Surface erosion on the downstream slope.

Photo No. 8 - A gully forming along the left downstream embankment abutment contact.

Photo No. 9 - The emergency spillway looking upstream.

Photo No. 10 - The emergency spillway looking downstream.

Photo No. 11 - The service spillway riser.

Photo No. 12 - The service spillway outlet structure.

Photo No. 13 - Erosion occurring along the right side of the outlet structure.

Photo No. 14 - Material collected above the outlet structure apparently washed from the embankment.

Photo No. 15 - A levee below the toe of the dam apparently to collect runoff from abutments.

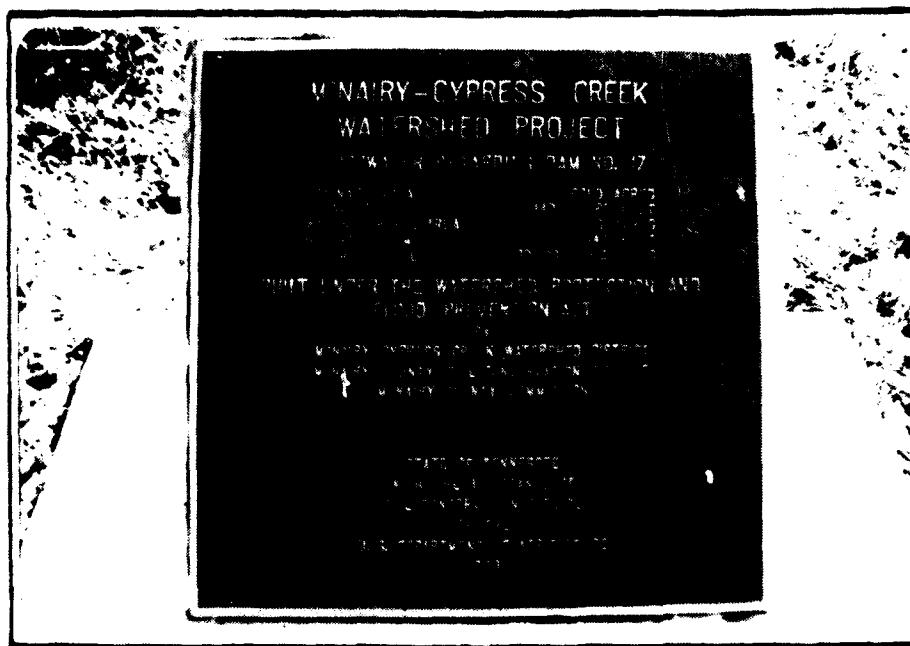


PHOTO NO. 1

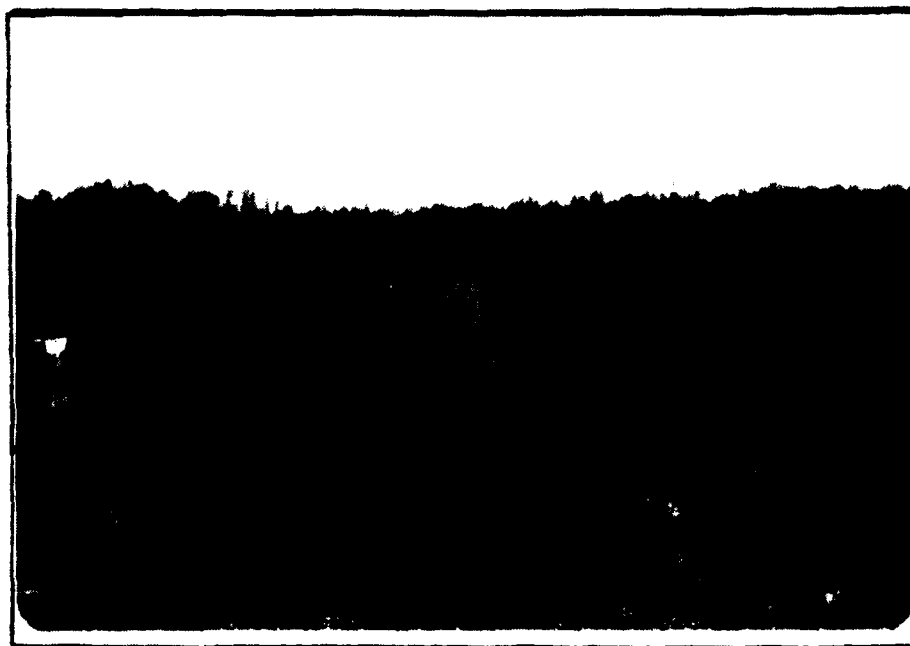


PHOTO NO. 2



PHOTO NO. 3



PHOTO NO. 4



PHOTO NO. 5



PHOTO NO. 6



PHOTO NO. 7

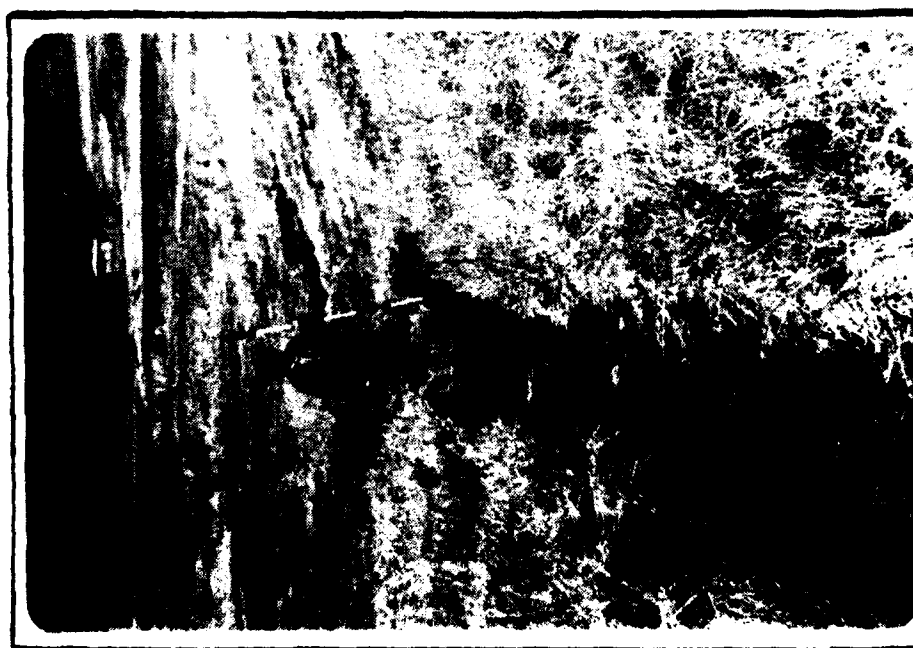


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PHOTO NO. 9



PHOTO NO. 10



PHOTO NO. 11

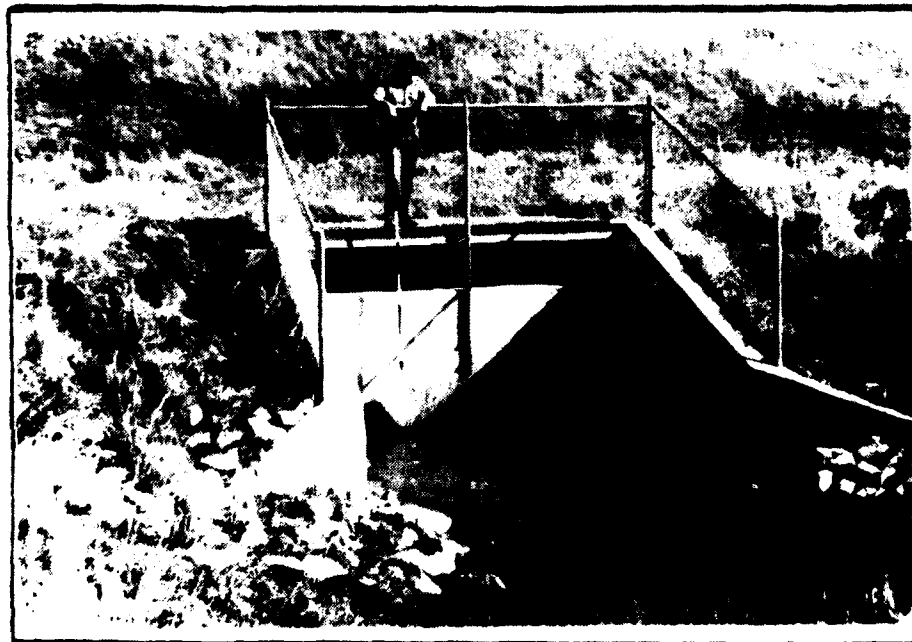


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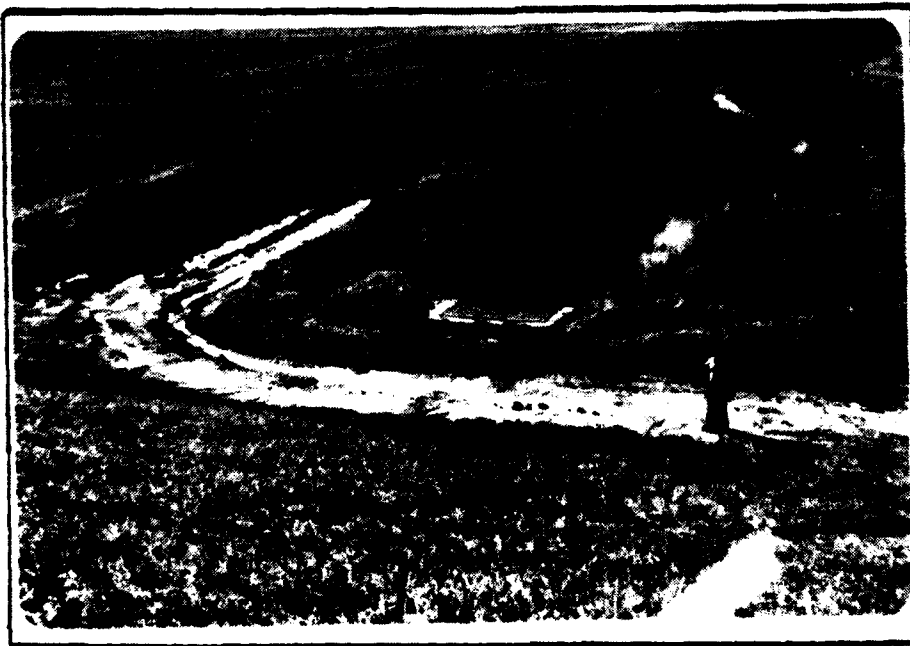


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PHOTO NO. 15

APPENDIX D
CHECKLIST

Check List
Visual Inspection of Earth Dams
Department of Conservation
Division of Water Resources

Name of Dam McNairy Cypress Creek Dam #17

County McNairy Date of Inspection 3/9/81

ID # - State 55-7010 Federal TN 10908

Type of Dam Earth

Hazard Category-Federal High State 1

Weather Clear Temperature About 55°F

Pool at Time of Inspection High stage NPL (distance from crest)

Tailwater at Time of Inspection 6" (distance from stream bed)

Design/As Built Drawings Available: Yes X No

Location: SCS office, Nashville and Selmer

Copy Obtained: Yes X No

Reviewed: Yes X No ~~Primary~~

Construction History Available: Yes X No

Location: SCS office, Nashville and Selmer

Copy Obtained: Yes No X

Reviewed: Yes X No Cursory

Other Records and Reports Available: Yes No

Location:

Copy Obtained: Yes No

Reviewed: Yes No

Prior Incidents or Failures: Yes No X

Inspection Personnel and Affiliation:

George Moore - TDWR

Anthony Privett - TDWR

Ed O'Neill - TDWR

I. Embankment

A. Crest

Description (1st inspection) Straight with gravel
roadway.

1. Longitudinal Alignment Good

2. Longitudinal Surface Cracks None seen

3. Transverse Surface Cracks None seen

4. General Condition of Surface Good

5. Miscellaneous

B. Upstream Slope

1. Undesirable Growth or Debris Minor debris about
6' above water surface day of inspection.

2. Sloughing, Subsidence, or Depressions None seen,
minor rilling above riprap at least partially due to
motorcycles and 4 wheel drives.
3. Slope Protection Riprap - good
- a. Condition of Riprap Good
- b. Durability of Individual Stones Good
- c. Adequacy of Slope Protection Against Waves
and Runoff Good
- d. Gradation of Slope Protection - Localized Areas
of Fine Material Good
4. Surface Cracks None seen
5. Downstream Slope
1. Undesirable Growth or Debris None seen

2. Sloughing, Subsidence, or Depressions; Abnormal
Bulges or Non-Uniformity Minor erosion increasing
near toe; minor slope irregularities apparent from
construction.
3. Surface Cracks on Face of Slope None seen
4. Surface Cracks or Evidence of Heaving at
Embankment Toe None seen
5. Wet or Saturated Areas or Other Evidence of Seepage
on Face of Slope; Evidence of "Piping" or "Boils"
None seen
6. Drainage System O.K.; no flow
7. Fill Contact with Outlet Structure Some erosion
on right side due to surface runoff.
8. Condition of Grass Slope Protection A few bare
areas mostly near toe.

D. Abutments

1. Erosion of Contact of Embankment with Abutment from
Surface Water Runoff, Upstream or Downstream

Some erosion; all generally less than 1 foot

2. Springs or Indications of Seepage Along Contact of
Embankment with the Abutments None seen

3. Springs or Indications of Seepage in Areas a Short
Distance Downstream of Embankment - Abutment Tie-in

None seen

II. Area Downstream of Embankment, Including Channel

A. Localized Subsidence, Depressions, Sinkholes, Etc. _____

None seen _____

B. Evidence of "Piping", "Boils", or "Seepage" _____

None seen _____

C. Unusual Presence of Lush Growth, such as Swamp

Grass, etc. None seen _____

D. Unusual Muddy Water in Downstream Channel None seen _____

E. Sloughing or Erosion Minor erosion from surface runoff. _____

F. Surface Cracks or Evidence of Heaving Beyond

Embankment Toe None seen _____

G. Stability of Channel Sideslopes O.K. _____

H. Condition of Channel Slope Protection Vegetation only. _____

I. Adequacy of Slope Protection Against Waves, Currents,
and Surface Runoff O.K.

J. Miscellaneous

K. Condition of Relief Wells, Drains, and Other
Appurtenances See below

L. Unusual Increase or Decrease in Discharge from
Relief Wells

III. Instrumentation

A. Monumentation/Surveys Information plaque at
embankment abutment contact upstream right.

B. Observation Wells None

C. Weirs None

D. Piezometers None

E. Other None

IV. Spillways

A. Service Spillway (Service/Emergency Combination Yes ☐ No ☒)

1. Intake Structure Condition O.K.

2. Outlet Structure Condition O.K.

3. Pipe Condition Could not be seen

4. Evidence of Leakage or Piping None seen

5. General Remarks _____

B. Emergency Spillway

1. General Condition Good

2. Entrance Channel Good

3. Control Section Good

3. Exit Channel Good

4. Vegetative/Woody Cover Grass cover

5. Other Observations Minor erosion on slopes and
some ponding of water downstream of
evidence of motorcycle and four wheel drives.

V. Emergency Drawdown Facilities (if part of service spillway
so state) Gate valve on service spillway riser

Are Facilities Operable: Yes X No

Were Facilities Operated During Inspection: Yes No X

Date Facilities Were Last Used Unknown

VI. Reservoir

A. Slopes O.K.

B. Sedimentation Appears minor

C. Turbidity less than 6" visibility; brown

VII. Drainage Area

Description (for hydrologic analysis) Predominantly
woods

A. Changes in Land Use _____

VIII. Downstream Area (Stream)

A. Condition (obstructions, debris, etc.) _____

None

B. Slopes Flat _____

C. Approximate No. Homes, Population, and Distance _____

Numerous houses starting about 1/2 mile downstream

D. Other Hazards Hwy 64 about 1 1/2 mile downstream _____

IX. Miscellaneous

Incidents/Failures None

Observed Geology of Area _____

X. Conclusions

Satisfactory pending hydraulic and hydrologic analysis

VI. Recommendations

1) Repair erosion

2) Improve grass cover

3) Prevent use of motorcycles and four wheel drives
on slopes

Robert S. Moore
Regional Engineer

Chief Engineer

APPENDIX F
DESIGN DRAWINGS

U. S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE
AND



1 - LOCATION MAP	18 - DETAILS OF RISER DETAILS	33 - DETAILS OF IMPACT BASIN	48 - DETAILS OF WATERWAY NO 1
2 - RESERVOIR AREA	19 - DETAILS OF RISER APRON AND LADDER	34 - DETAILS OF IMPACT BASIN	49 - DETAILS OF WATERWAY NO 2
3 - SHORELINE SHAPING AND GRADINGS	20 - RISER DETAILS	35 - DETAILS OF IMPACT BASIN	50 - DETAILS OF WATERWAY NO 3
4 - SITE LOCATION MAP	21 - TRASH RACK & HEADGATE DETAILS	36 - STEEL SCHEDULE - IMPACT BASIN	51 - BORROW AREA NO 1
5 - BORROW AREA NO 1	22 - DETAILS OF IMPACT BASIN	37 - FILTER DETAILS - IMPACT BASIN	52 - BORROW AREA NO 2
6 - BORROW AREA NO 2 & 3	23 - DETAILS OF IMPACT BASIN	38 - IMPACT BASIN COVER & FENCE DETAILS	53 - BORROW AREA NO 3
7 - TYPICAL SECTIONS	24 - DETAILS OF IMPACT BASIN	39 - PROFILES	54 - BORROW AREA NO 4
8 - DUNE AND FILL SECTIONS	25 - DETAILS OF IMPACT BASIN		55 - BORROW AREA NO 5
9 - DETAILS OF WATERWAY NO 1	26 - DETAILS OF IMPACT BASIN		56 - BORROW AREA NO 6
10 - DETAILS OF WATERWAY NO 2	27 - DETAILS OF IMPACT BASIN		57 - BORROW AREA NO 7
11 - DETAILS OF PIPE DRAINS	28 - DETAILS OF IMPACT BASIN		58 - BORROW AREA NO 8
12 - PRINCIPAL SPILLWAY	29 - DETAILS OF IMPACT BASIN		59 - BORROW AREA NO 9
13 - FOUNDATION DRAIN	30 - DETAILS OF IMPACT BASIN		60 - BORROW AREA NO 10
14 - PIPE DRAINS	31 - DETAILS OF IMPACT BASIN		61 - BORROW AREA NO 11
15 - RISER DETAILS	32 - DETAILS OF IMPACT BASIN		62 - BORROW AREA NO 12
16 - DETAILS OF RISER APRON AND LADDER	33 - DETAILS OF IMPACT BASIN		63 - BORROW AREA NO 13
17 - RISER DETAILS	34 - DETAILS OF IMPACT BASIN		64 - BORROW AREA NO 14
18 - DETAILS OF RISER DETAILS	35 - DETAILS OF IMPACT BASIN		65 - BORROW AREA NO 15
19 - DETAILS OF RISER APRON AND LADDER	36 - STEEL SCHEDULE - IMPACT BASIN		66 - BORROW AREA NO 16
20 - RISER DETAILS	37 - FILTER DETAILS - IMPACT BASIN		67 - BORROW AREA NO 17
21 - TRASH RACK & HEADGATE DETAILS	38 - IMPACT BASIN COVER & FENCE DETAILS		68 - BORROW AREA NO 18
22 - DETAILS OF IMPACT BASIN	39 - PROFILES		69 - BORROW AREA NO 19
23 - DETAILS OF IMPACT BASIN			70 - BORROW AREA NO 20
24 - DETAILS OF IMPACT BASIN			71 - BORROW AREA NO 21
25 - DETAILS OF IMPACT BASIN			72 - BORROW AREA NO 22
26 - STEEL SCHEDULE - IMPACT BASIN			73 - BORROW AREA NO 23
27 - FILTER DETAILS - IMPACT BASIN			74 - BORROW AREA NO 24
28 - IMPACT BASIN COVER & FENCE DETAILS			75 - BORROW AREA NO 25
29 - PROFILES			76 - BORROW AREA NO 26
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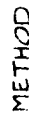
SONITEC13 (MC/MI/MS)



CONSTRUCTION DESIGN & APPROVED

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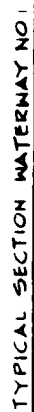
DETAILS OF SHORELINE CHANG. 2. ~~SHORE~~ GRADING

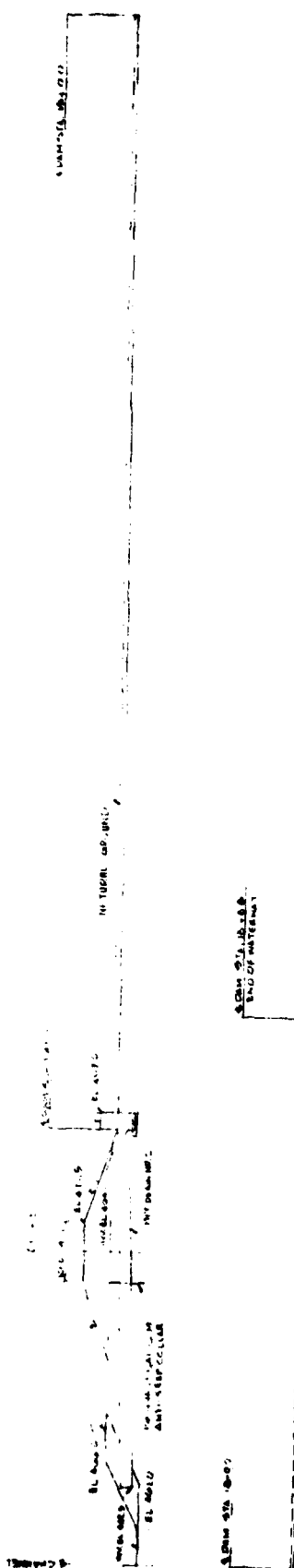
DRAM NO 17
MONTGOMERY-CYPRESS CREEK WATERSHED
MCNairy County, Tennessee
SODAPINE SPRING AND GRADING
A DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE



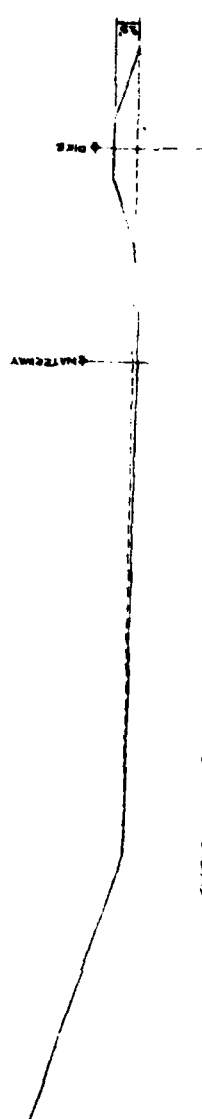
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PROFILE ALONG E WATERWAY NO. 2



TYPICAL SECTION WATERWAY NO. 2

DAM NO. 17
 MINNERY-CYPRESS CREEK WATERSHED
 MINNERY COUNTY, TENNESSEE
 DETAILS OF WATERWAY NO. 2

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10 25
 TN-2038-17

PLAN

400 (MIN)

TYPICAL CROSS SECTION OF PIPE DRAIN

DETAILS OF ANTI-VORTEX BAFFLE
NOT TO SCALE

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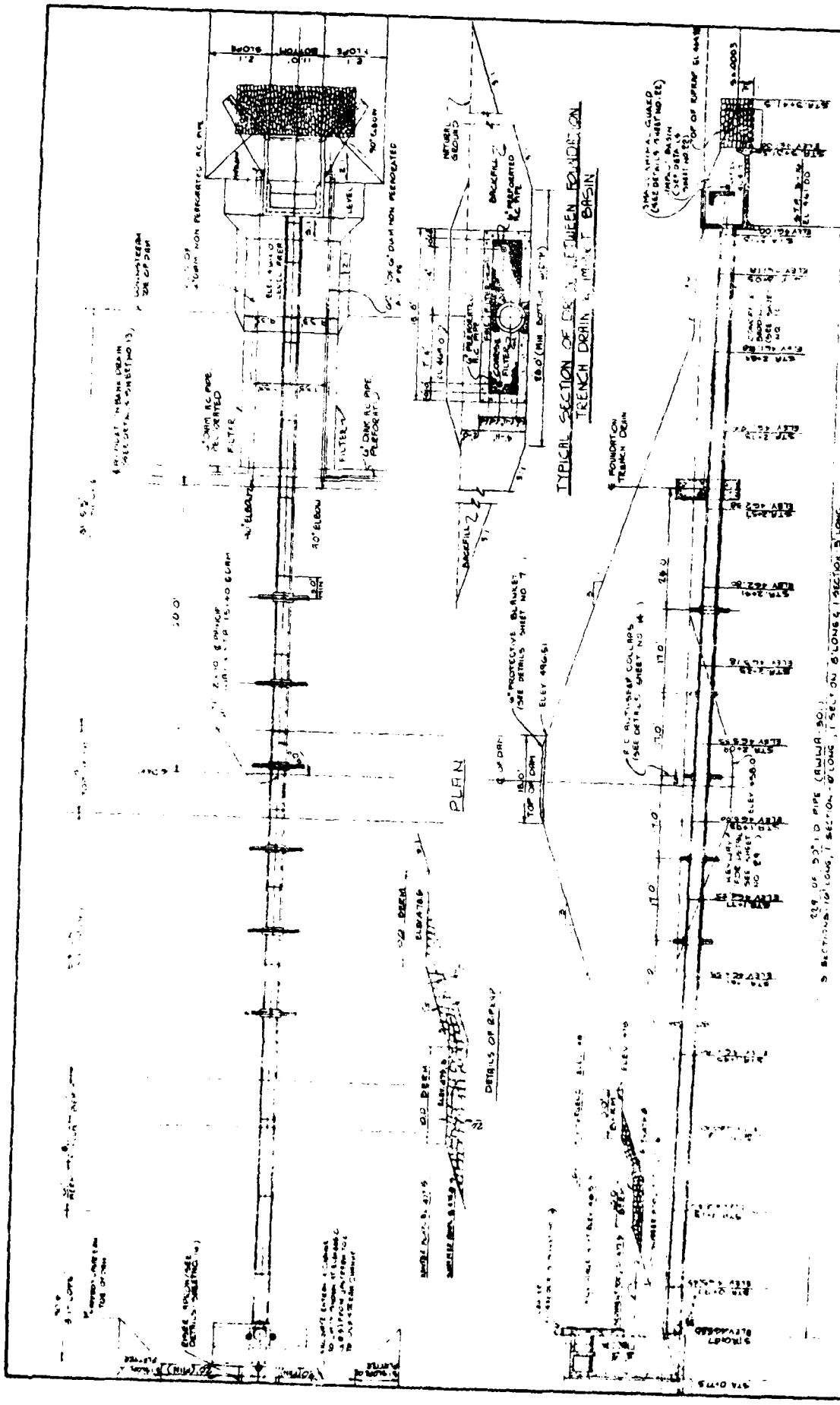
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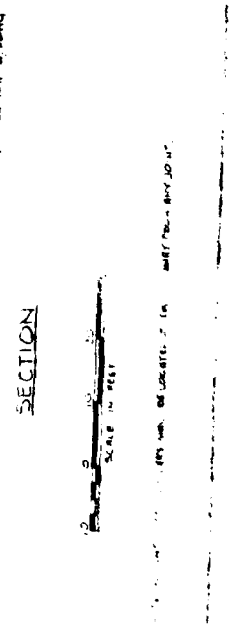
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DRAW NO 17
 HANCOCK CYPRESS CREEK WATERWORKS
 HANCOCK COUNTY, TENNESSEE
 PRINCIPAL DESIGNER
 DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE

DESIGNED BY: THOMAS CAMPBELL
 PROJECT NO. 17
 ARCHITECTS ENGINEERS
 1115 S. HALL ST.
 MEMPHIS, TENN.

DATE: JAN. 1938



SECTION

20' OF 20" DIA PIPE (BUILDING 30)

SECTION - 10' LONG, 1' SECTION - 10' LONG, 1' SECTION - 10' LONG

SCALE IN FEET

1" = 10'

113 TN-2036-17



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7-5

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STEEL SCHEDULE

Item	Quantity	Length	Type	Notes
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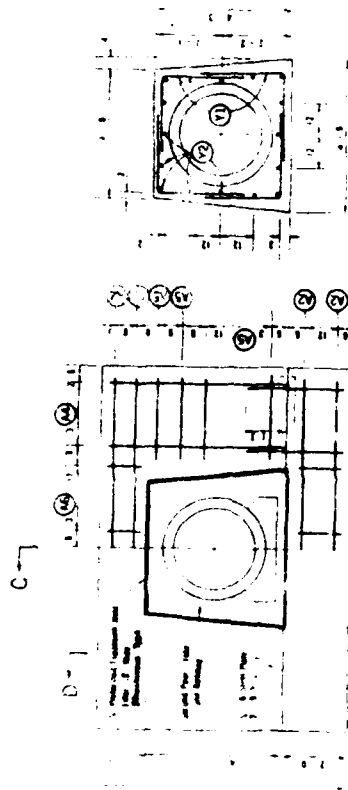
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BAR TYPES

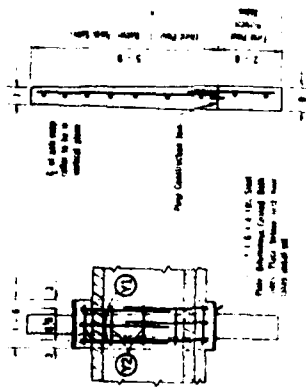
SUGGESTED SUPPORT BLOCKS

DRM NO. 17
MEMPHIS, TENNESSEE
DEPARTMENT OF AGRICULTURE
CONSERVATION SERVICE

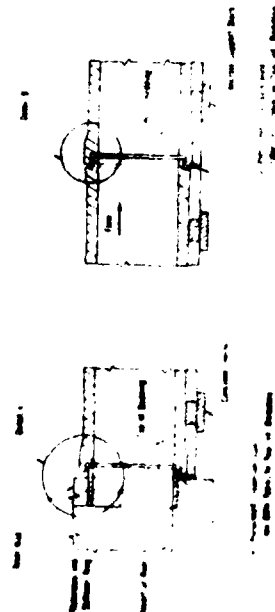


DETAIL OF ANTI SEEP COLLAR YOKE

DETAIL OF ANTI SEEP COLLAR



SECTION C-C



DETAIL OF PIPE JOINT

DETAIL OF SPICED JOINT

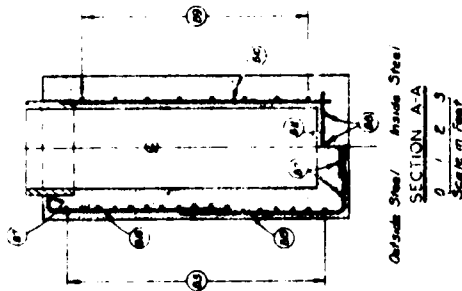
DETAIL OF BEDDING

STRENGTH REQUIREMENTS

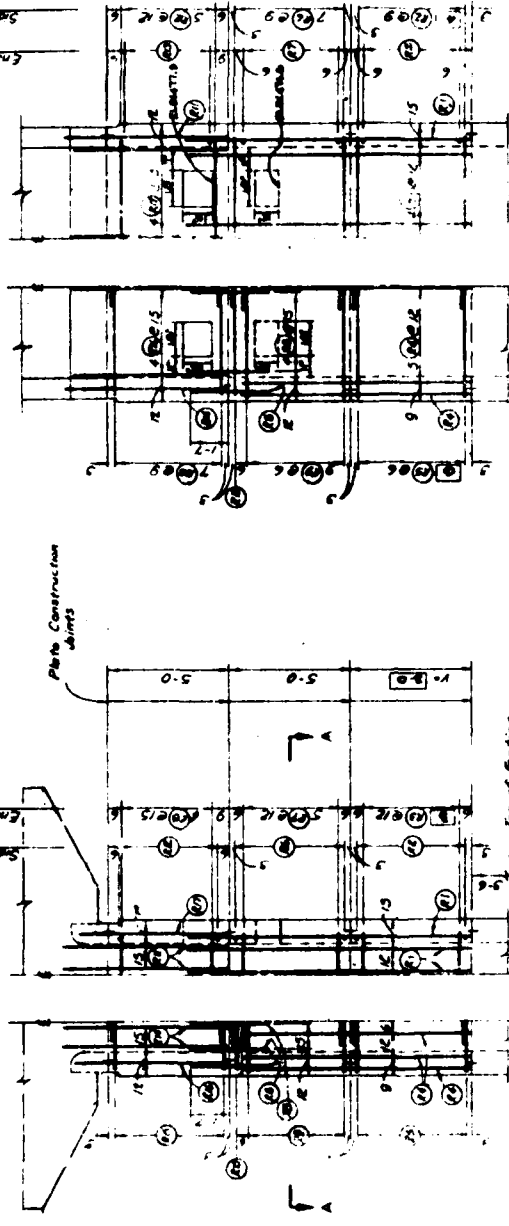
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Item	Quantity	Notes
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4	2	10
5	2	10
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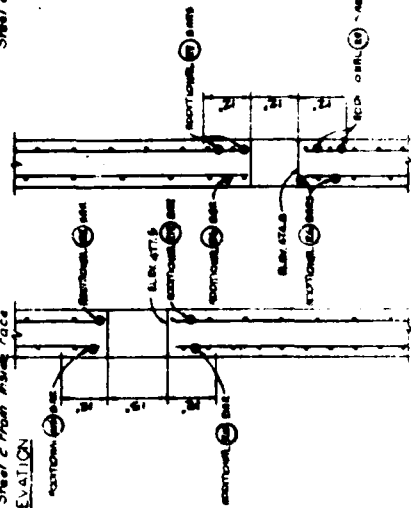
NOTE
FIELD CUT ON B. & D. STEEL
AS REQUIRED TO INSTALL
HANDLE FOR 18" DIAMETER



NOTE
FIELD JOINT BEND
USE 1/2" MIN. - 1/4" MAX. STEEL
BE WELDED - 1/4" MIN. 1/4" MAX.
8" x 1/4" x 1/4" ON SPALL BUILT IN
CONCRETE BEAM END JOINT

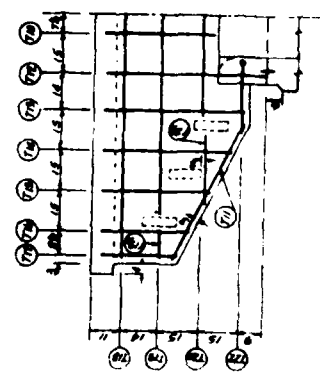
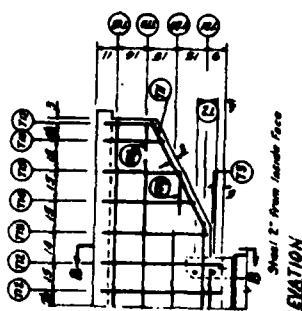
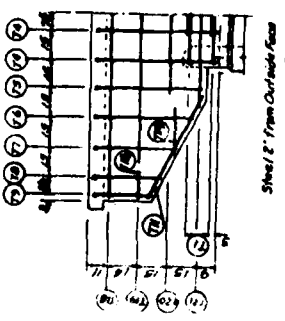
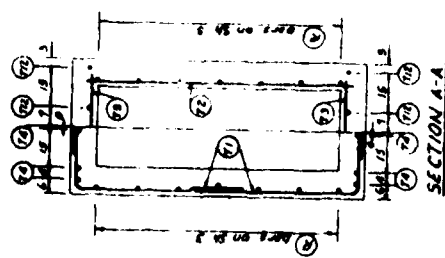
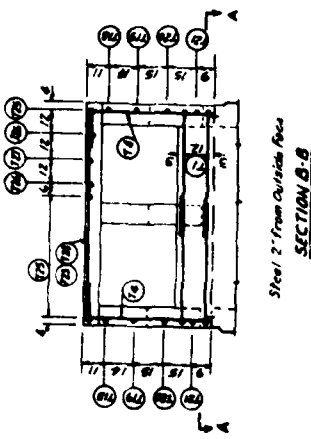
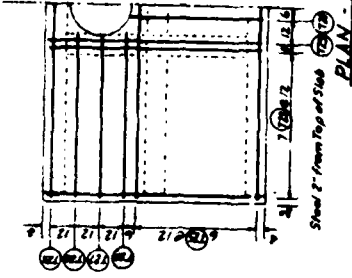
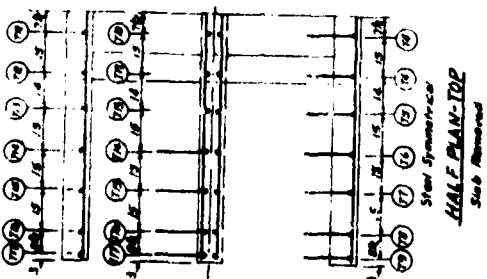


Site - 4' from Outside Face Steel Elevation Inside Face
SIDE WALL ELEVATION



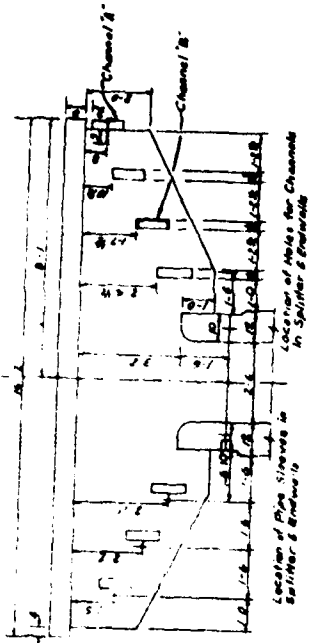
DAM NO. 17
HARTLEY CREEK WATERSHED
NORTH COUNTY, TENNESSEE
RISK DETAIL
DEPARTMENT OF AGRICULTURE
AND CONSERVATION SERVICE
DATE: 10-17-17
BY: 10-17-17
TN 2038-17

DATE: 10-17-17
BY: 10-17-17
TN 2038-17

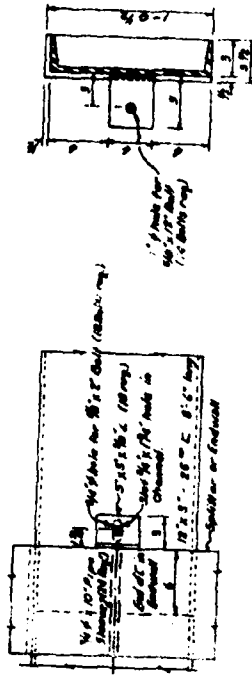


DRM NO. 17
MENHRY-CYPRESS CREEK WATERSHED
HENRY COUNTY, TENNESSEE
RISER DETAILS
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DATE: 1-77
BY: J. C. P.
CHECKED: J. C. P.
TIN: 2038-17
C-2038-17

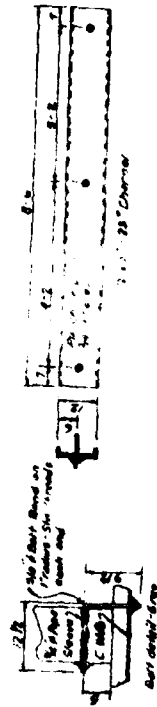
BAFFLED INLET RISER
30" TOP
1-77 Sheet 4 of 5



SECTION C-C



CHANNEL B
(if required)



CHANNEL A
(if required)

Note:
Holes to be drilled in poured
concrete members, etc., after channels and a
to be not the same as after fabrication.

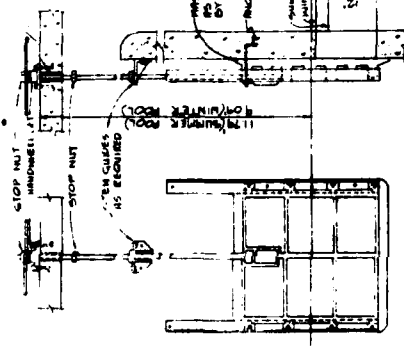


DAM NO. 17
MOUNT CYPRESS CREEK WATERED
HENRY COUNTY, TENNESSEE
RIVER DETAILS

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

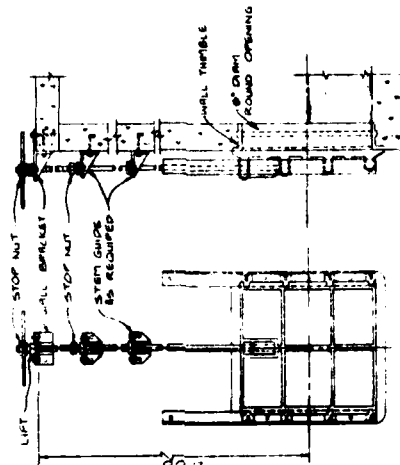
DATE: 10/1/54
BY: [Signature]
CHECKED BY: [Signature]
APPROVED BY: [Signature]

BUTLER, M. P. RIVER
10/1/54

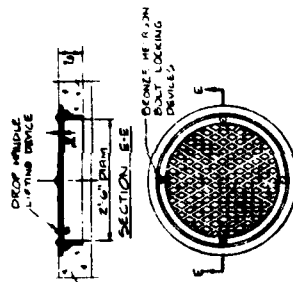
[illegible]

THE GATE ASSEMBLY SHALL INCLUDE THE FOLLOWING:

1. 100 x 10⁶ cells were grown in 100 ml of medium in 250 ml Erlenmeyer flask containing 100 ml of medium.



DETAILS OF 18" SQUARE SLIDE GATE
(continued)



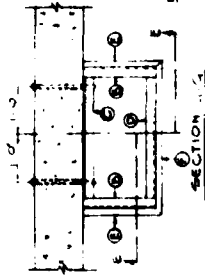
PLAN

DETAILS OF MANHOLE COVER

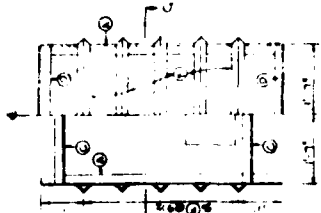
NOTE
MARIANO CASE SHOWN MODEL NO 2 GOTT, WITH
TYPE 11 SHARP HANDLE JF AND TYPE 25 BRONZE
HYDRON BOLT LOCKING PLACES, MANUFACTURED BY
WESMAN FOUNDRY IN PHO, NEENAH WISCONSIN,
(SEE PAGE 1)



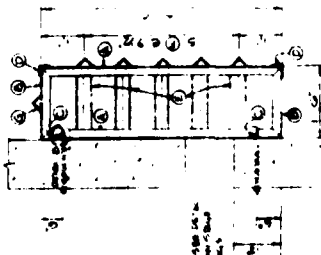
De. Ailsa M. MacLennan



SECTION



SECTION E-2



SECTION NUMBER 2

DETAILS OF LOW STAGE TRASH RACK

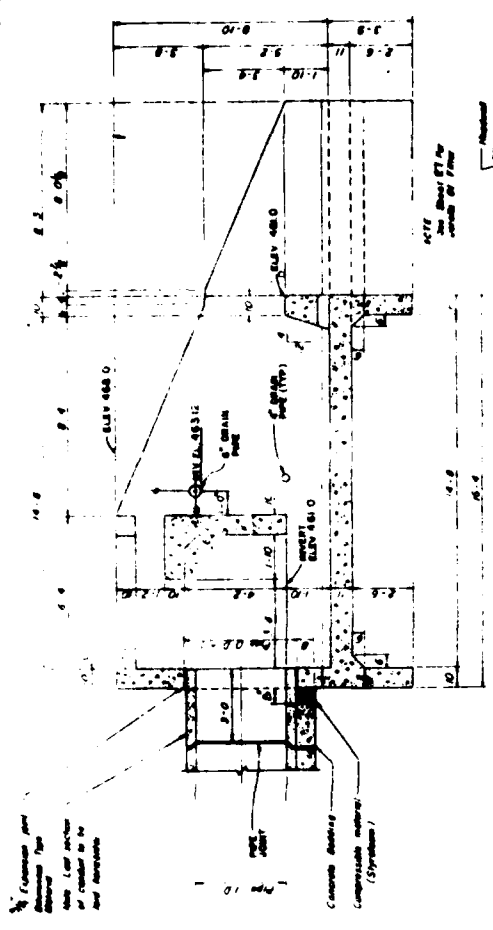
2. Requirements

[illegible]

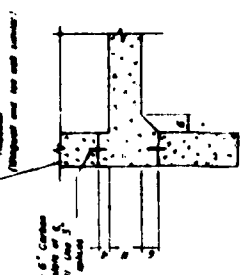
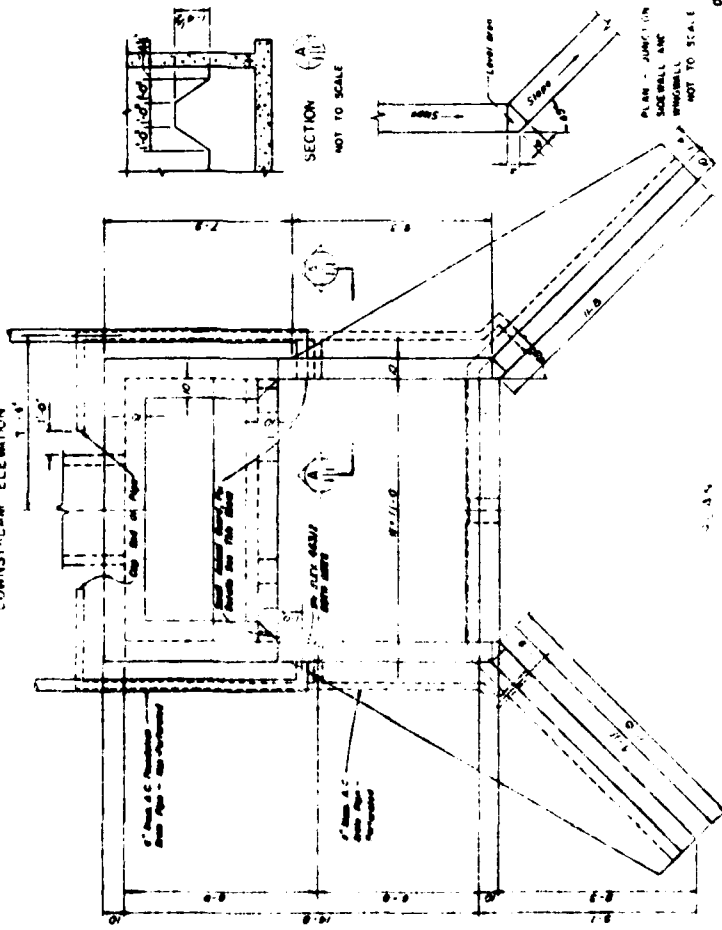
DAM NO 17
MILLARY CYPRESS CREEK, WATERSHED
IN MARSH COUNTY, TENNESSEE
ENTRANCE RACK & HEADGATE DETAILS
U.S. DEPARTMENT OF AGRICULTURE
NATIONAL CONSERVATION SERVICE

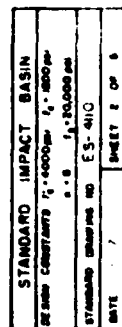


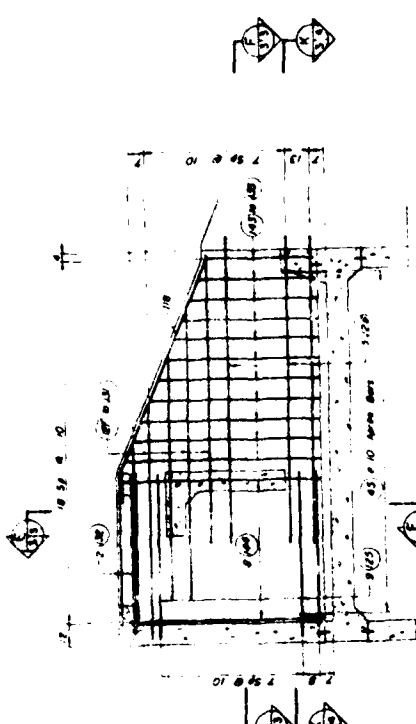
21
TN-2038-17



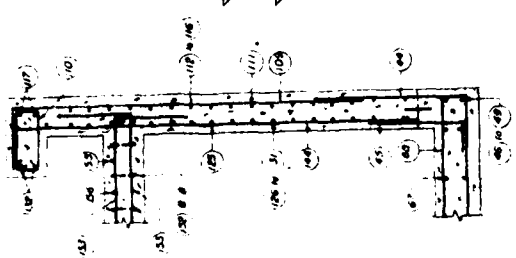
DOWNSTREAM ELEVATION





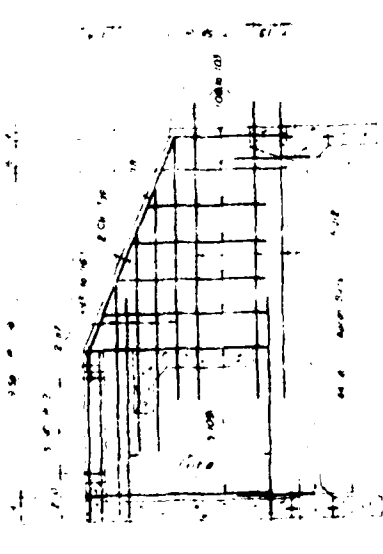


UPSTREAM FACE
ELEVATION SIDE WALL

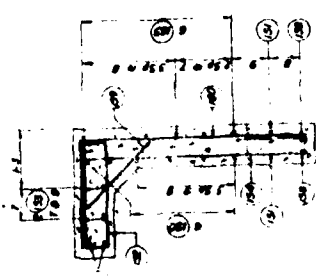


SECTION

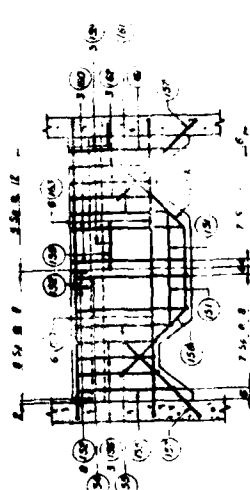
SCALE IN FEET



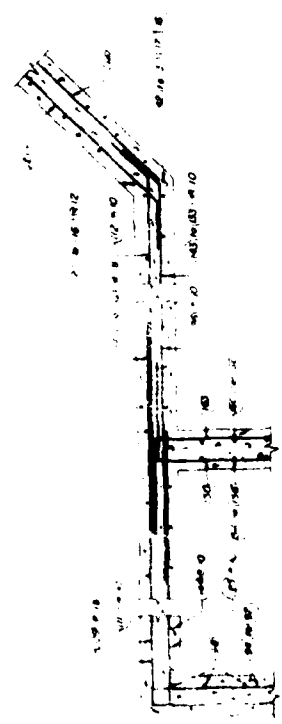
DOWNSTREAM FACE
ELEVATION SIDE WALL



SECTION



UPSTREAM FACE
ELEVATION SIDE WALL



SECTION

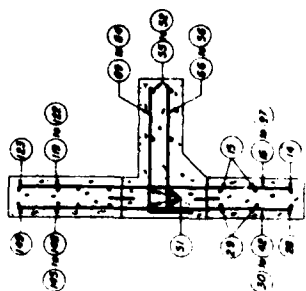
DAM NO. 17
KENTON CYPRESS CREEK, TENNESSEE
MURPHY COUNTY, TENNESSEE
CHAS. E. JONES, DESIGNER
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE



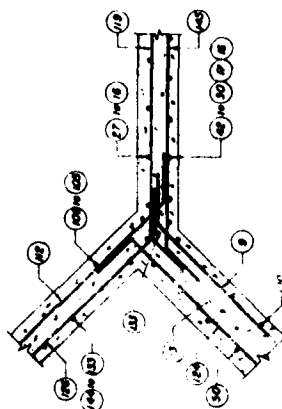
STANDARD DRAWING
NO. 17
DATE: 10/1/57

STANDARD DRAWING	NO. 17	BA
DATE	10/1/57	
DESIGNER	CHAS. E. JONES	
CHECKED BY		
APPROVED BY		

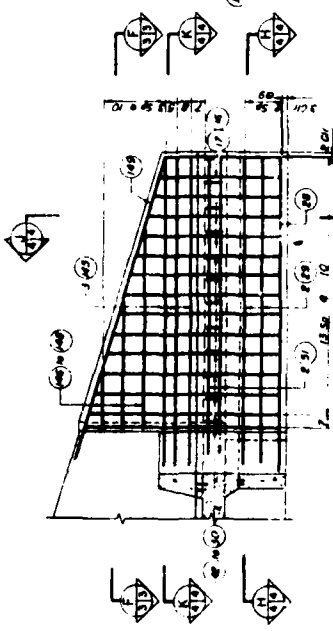
PA 2048-17
10/1/57



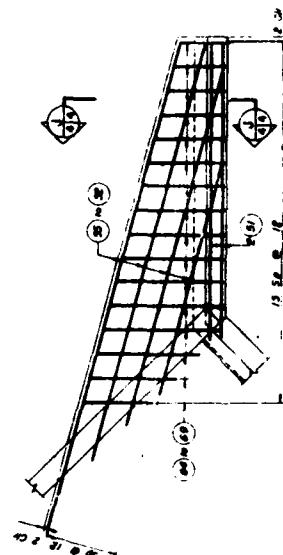
SECTION
SCALE IN FEET



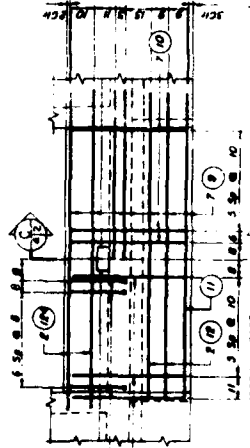
SECTION
SCALE IN FEET



EXPOSED FACE
WINGWALL ELEVATION

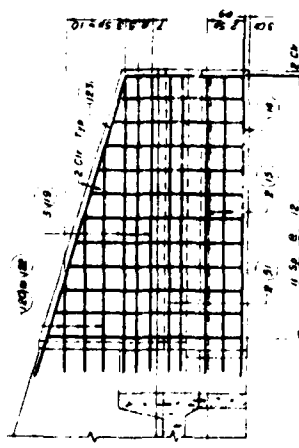


PLAN WINGWALL FOOTING

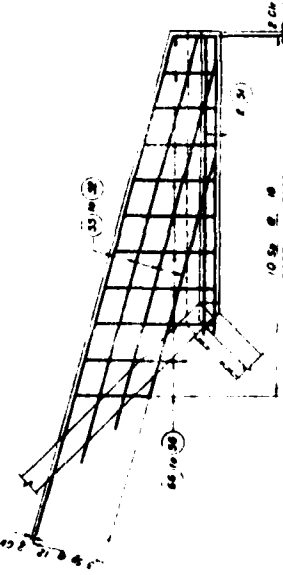


UPSTREAM FACE

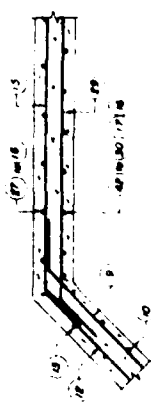
ELEVATION OF END SILL & TOEWALL



UNEXPOSED FACE
WINGWALL ELEVATION



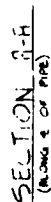
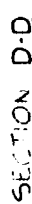
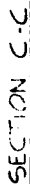
PLAN WINGWALL FOOTING



SECTION
SCALE IN FEET

DRM NO. 17
MENDLEY-CYPRESS CREEK WATERSHED
MENDLEY COUNTY, TENNESSEE
DETAILS OF IMPACT BASIN
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

STANDARD IMPACT BASIN	
DESIGN CONTRACT NO.	40000-1-10000
STANDARD DRAWING NO.	ES-4110
DATE	11-20-67
SHEET	OF 3



ALL 4" & 6" SANDSTON - CEMENT
PIPE AND FITTINGS SHALL MEET
THE MINIMUM REQUIREMENTS FOR
CLASS 100 (PRESSURE PIPE)

FINE FILTER GRADATION		
SIEVE SIZE	% PASSING	
3/8"	100	
# 4	95 - 100	
# 10	100 - 90	
# 20	9 - 30	
# 100	0 - 10	
# 200	0 - 5	

FILE CONTENTS

FINGER CONTAINER	
FINE FILTER	86 CUVES.
COARSE FILTER	17 CUVES.

PRATHEN THOMAS CAMPBELL

PROLOGUE, INC.

ARCHITECTS ENGINEERS



DAM NO : 7

MEMPHIS COUNTY TENNESSEE

MCNARY COUNTY, TENNESSEE

IMPACT COUNTY, TENNESSEE
 TER DETAILS - IMPACT BASIN

X DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

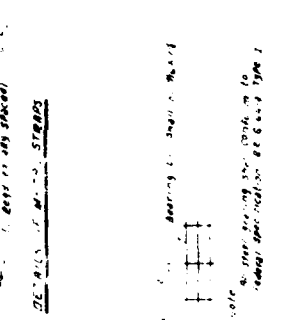
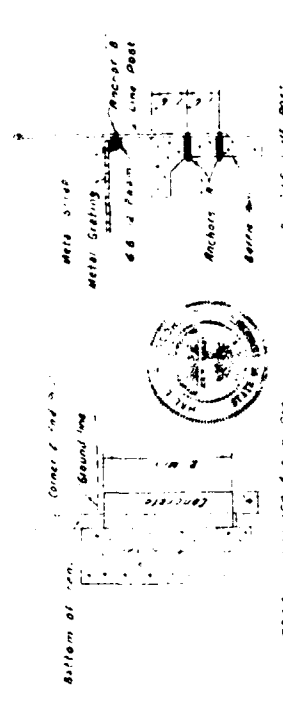
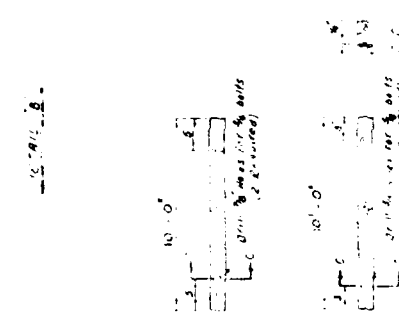
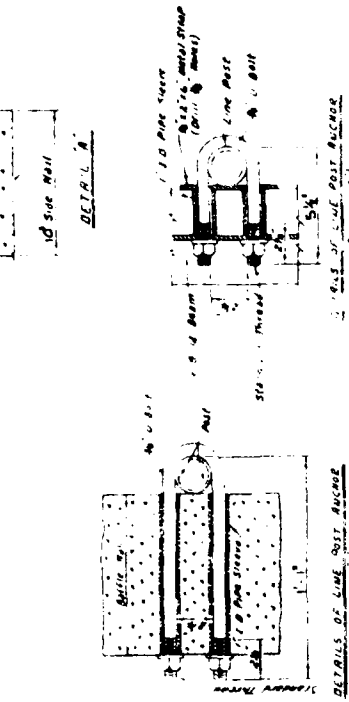
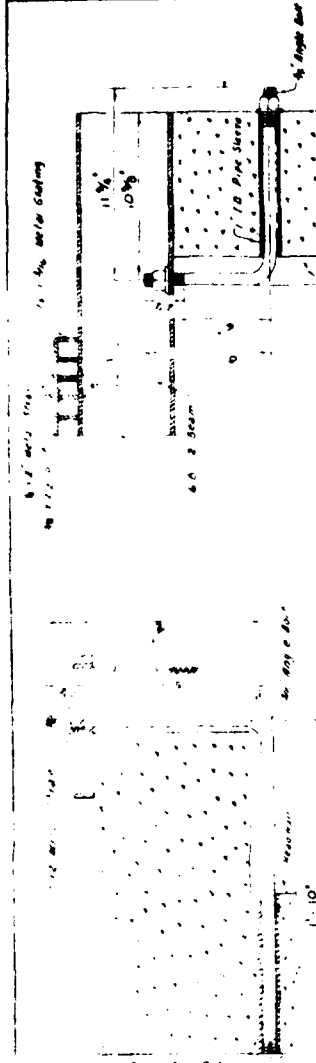
100

Figure 1. The effect of the concentration of the polymer on the gelation time of the polymer solution. The concentration of the polymer was 0.5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834

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12-10-17	13	14-2018-17
12-10-17	13	14-2018-17

17-00000



DETAIL E

DETAIL F

DETAIL G

DETAIL H

DETAIL I

DETAIL J

DETAIL K

DETAIL L

DETAIL M

DETAIL N

DETAIL O

DETAIL P

DETAIL Q

DETAIL R

DETAIL S

DETAIL T

DETAIL U

DETAIL V

DETAIL W

DETAIL X

DETAIL Y

DETAIL Z

DETAIL AA

DETAIL AB

DETAIL AC

DETAIL AD

DETAIL AE

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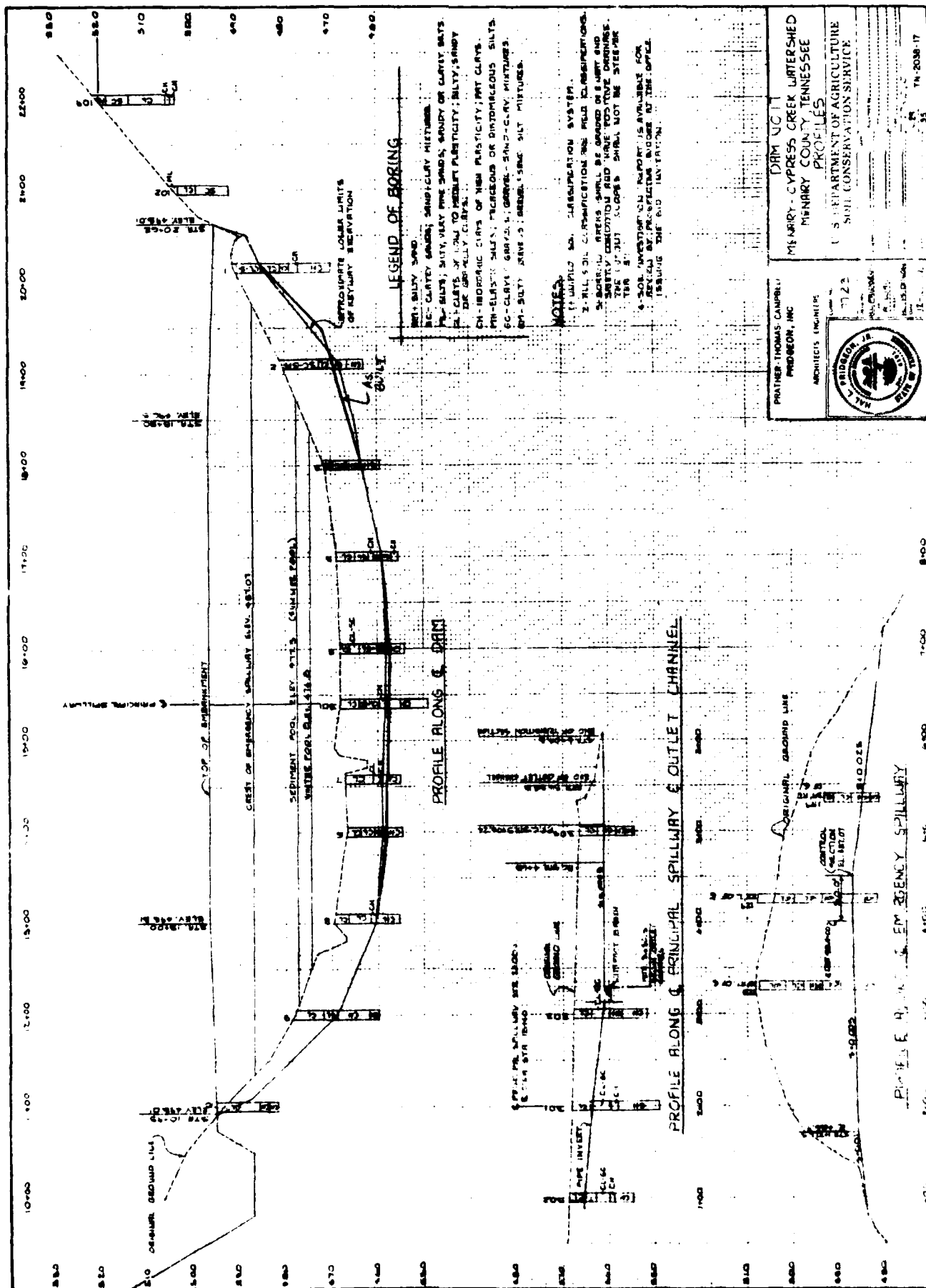
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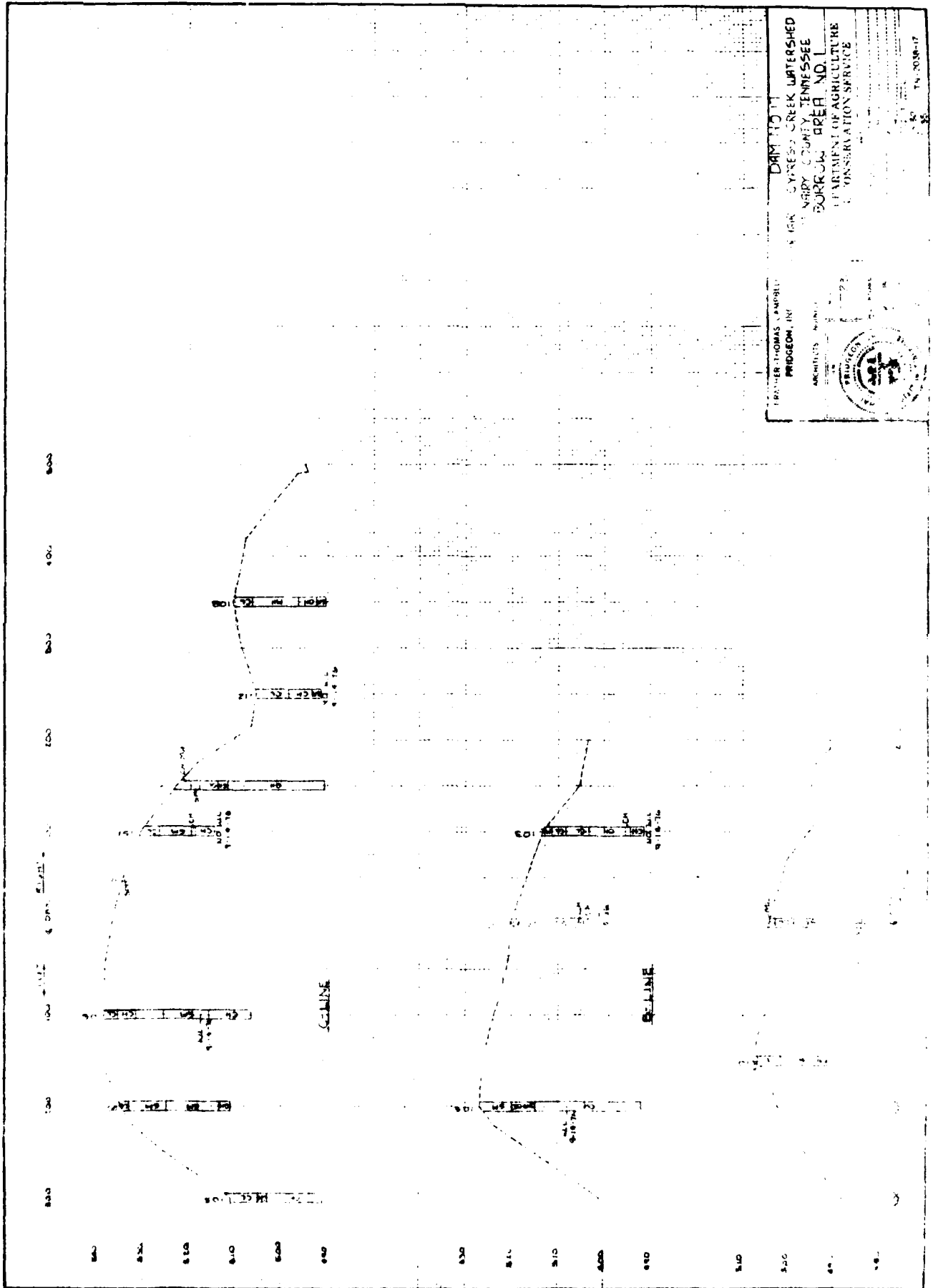
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DETAIL KZ

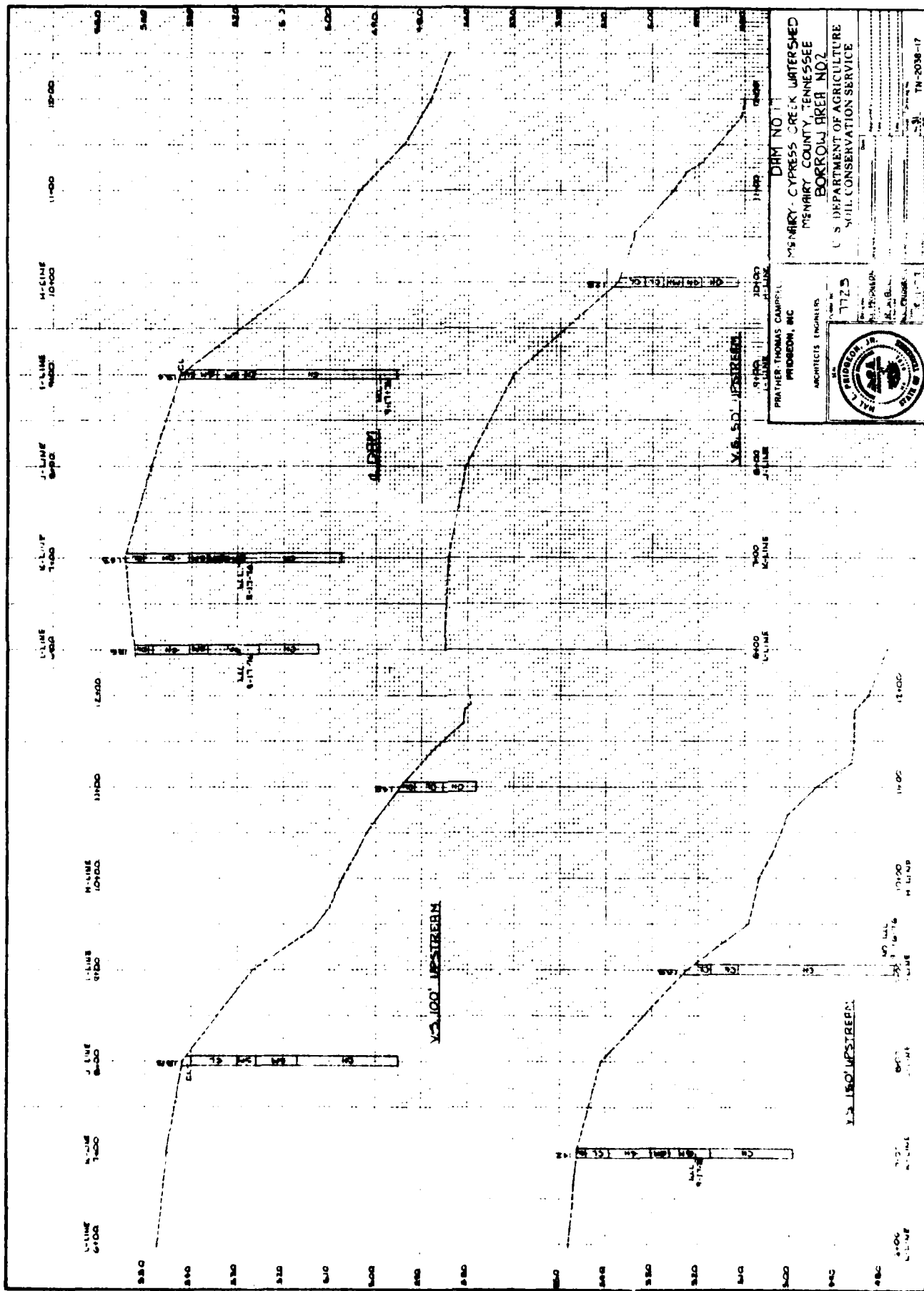
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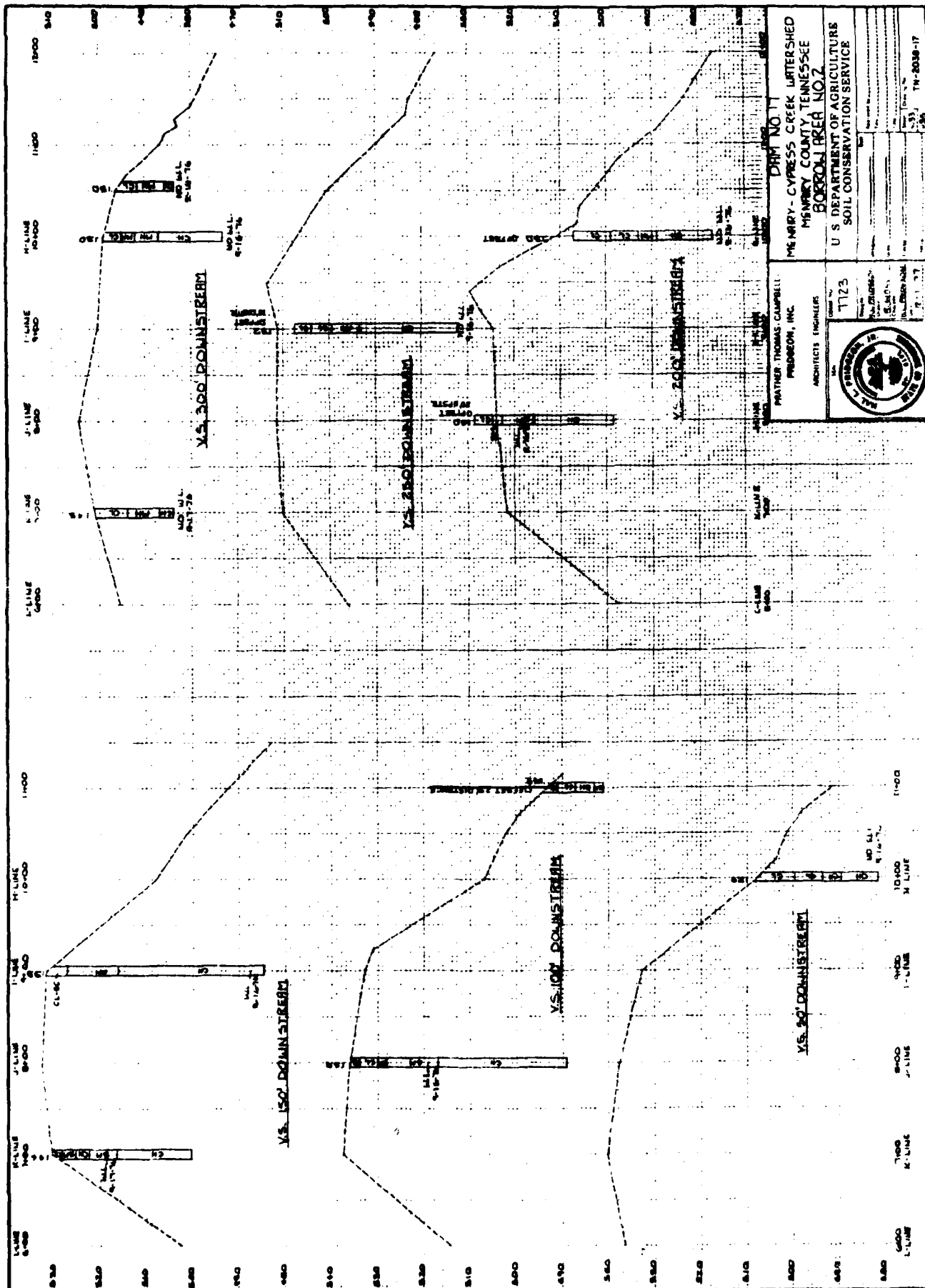
DETAIL LB





DAIN 110 11
 CYNES CREEK WATERSHED
 HENRY COUNTY, TENNESSEE
 BORROW AREA NO. 1
 DEPARTMENT OF AGRICULTURE
 CONSERVATION SERVICE
 ARCHITECTS: THOMAS CAMPBELL
 PRIDGEMAN, INC.
 MEMPHIS, TENNESSEE
 1950
 10-2058-17





MCNAIRY - CYPRESS CREEK WATERSHED PROJECT

FLOODWATER RETARDING DAM NO. 17

DRAINAGE AREA 621.0 ACRES
TOTAL STORAGE 440.7 ACRE FEET
WATER SURFACE AREA 13.0 ACRES
HEIGHT OF DAM 34.1 FEET
VOLUME OF FILL 80,500 CUBIC YARDS
BUILT UNDER THE WATERSHED PROTECTION AND
FLOOD PREVENTION ACT

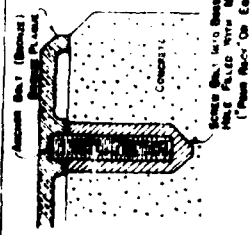
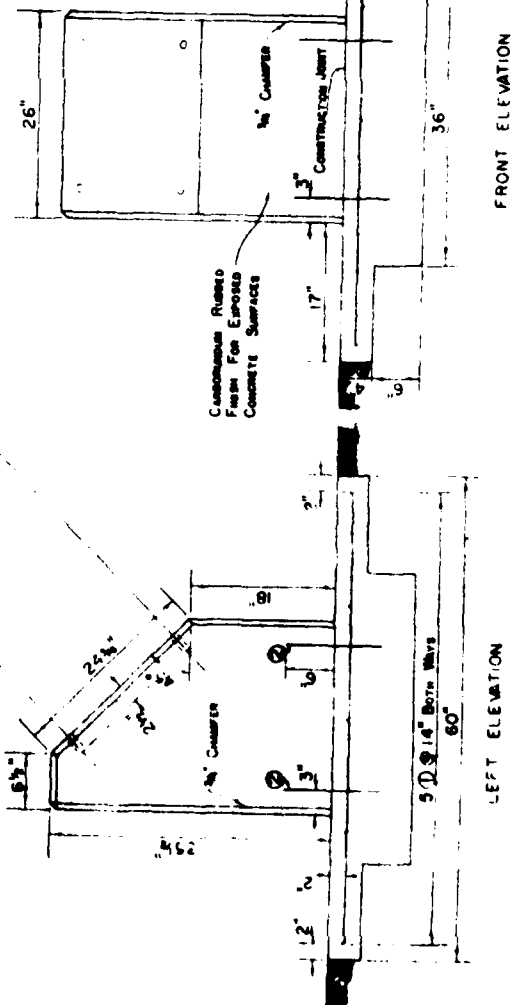
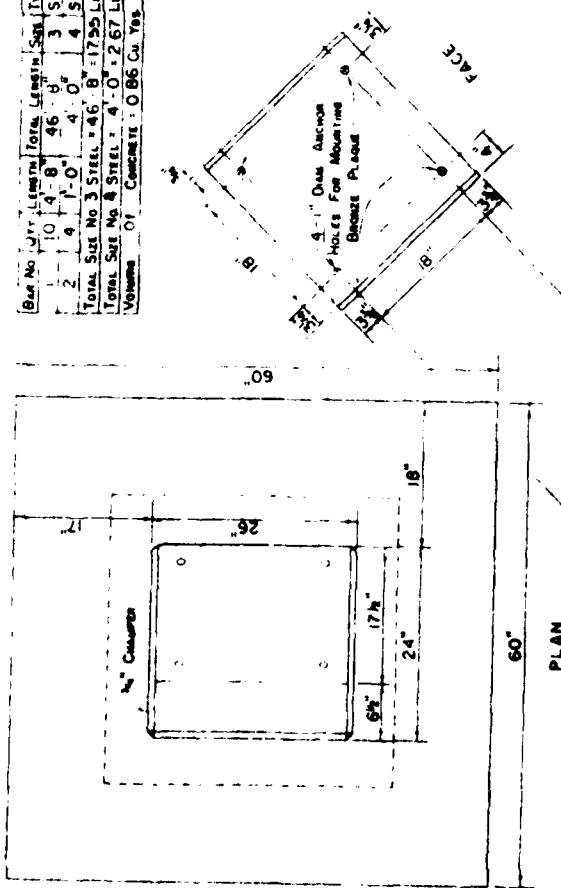
by
MCNAIRY - CYPRESS CREEK WATERSHED DISTRICT
MCNAIRY COUNTY SOIL CONSERVATION DISTRICT
MCNAIRY COUNTY QUARTERLY COURT
CITY OF SELMER
CITY OF RAMER
and
STATE OF TENNESSEE
with the assistance of
SOIL CONSERVATION SERVICE
of the
U.S. DEPARTMENT OF AGRICULTURE
1974-7

BRONZE PLAQUE
24" x 24"

* NOTE 9
LAST COPY OF YEAR ON PLATE SHALL
BE ADDED UNDER BY THE CONTRACTOR
AND CONTRACTING OFFICE AFTER THE
CONTRACT IS AWARDED AND PRIOR TO
THE CONTRACTOR ORDERING THE PLATE

DAM NO. 17	
MCNAIRY - CYPRESS CREEK WATERSHED	
MCNAIRY COUNTY TENNESSEE	
STRUCTURE MONUMENT	
U.S. DEPARTMENT OF AGRICULTURE	
SOIL CONSERVATION SERVICE	
DATE	APPROVED BY
DESIGNED BY	CHECKED BY
DRAWN BY	IN CHARGE
TIN-2038-17	

Bar No.	Qty.	Length	Total Length	Size	Type
1	10	4'-8"	46'-8"	3"	Stl.
2	4	1'-0"	4'-0"	4"	Stl.
TOTAL SIZE NO. 3 STEEL = 46'-8" - 17,505 LBS					
TOTAL SIZE NO. 4 STEEL = 4'-0" - 2,67 LBS					
VOLUME OF CONCRETE: 0.86 Cu. Yds.					



NOTE
Location Of The Monument On The Site
Will Be Determined By The Engineer

CONCRETE MONUMENT

APPENDIX F
HYDRAULIC AND HYDROLOGIC DATA

Hydraulics and Hydrology

McNairy Cypress Creek Dam #17 is located in McNairy County, Tennessee. The watershed land use is about 80% woods and 20% pasture. Shubuta (HSG C), Cuthbert (HSG C), and Dulac (HSG C) are the predominant soil types. The runoff curve number (RCN) was calculated to be 71 AMC II.

The McNairy Cypress Creek Dam #17 is classified to be a small size, high hazard potential dam. As such, it is required to pass the one-half to the full probable maximum flood (PMF) without overtopping. The PMF is derived from the probable maximum precipitation (PMP). Using the U. S. Weather Service TP-40, the 6-hour PMP was estimated to be 29.75 inches yielding 25.35 inches of runoff (RCN 71, AMC II).

The total inflow into the reservoir during the PMF (AMC II) is about 1311 acre-feet with a peak rate of 6008 cfs. The reservoir has a maximum storage above normal pool of 441 acre-feet. The PMF (AMC II) was used as the freeboard design storm. The PMF (AMC II) routings were started with a pool elevation of 478.5' msl (1' above normal pool elevation). This elevation was obtained after a ten day drawdown with a starting elevation of 487.1' msl (crest of the emergency spillway).

The design configuration of the emergency spillway based on the PMF AMC II routing calls for a base width of 93' with maximum head of 7.9'. The measured dimensions of the spillway are an 82' base with maximum head of 8.8'. Also, the crest of the emergency spillway is 0.4' higher than called for on the design plans (487.5' vs. 487.1' msl). Review of the design calculations indicates that the decrease in the base width would require approximately 0.5' of additional freeboard. The field measurements indicate that the required additional head is available and it is therefore assumed that the PMF AMC II will pass without overtopping the dam.

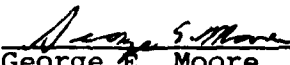
The full and $\frac{1}{2}$ PMF were routed under AMC III conditions with an initial pool elevation of 477.5' msl (winter NPE). The PMF runoff under AMC III conditions is 27.9 inches giving a total inflow of 1444 acre-feet with a peak rate of 8825 cfs. The full PMF overtopped the dam for 0.66 hours with a maximum depth of 0.4'. The $\frac{1}{2}$ PMF passed with 3.7' of freeboard. The routings were based on the measured configuration.

The 10-day, 100-year flood produces 359.7 acre-feet of inflow. Routing of this storm requires 194 acre-feet of storage. This routing was used to set the crest of the emergency spillway at 487.1' msl.

The 6-hour, 100-year flood containing 5.4 inches of precipitation was routed through the reservoir using a RCN of 86 (AMC III). This produced a runoff of 2.8 inches and a peak inflow of 1262 cfs. This storm produced a peak discharge of 94 cfs. The lake level did not reach the emergency spillway crest during the storm.

AMC II hydrographs and routings and spillway routings are from calculations performed by SCS design engineers using the DAMS 2 program. AMC III hydrographs were developed using the methods in Section 4, Chapter 21, of the SCS National Engineering Handbook. The routing equation used was:

$$I_1 + I_2 + \left(\frac{2S}{\Delta t} - O_1\right) \Delta t = \left(\frac{2S}{\Delta t} + O_2\right) \Delta t$$


George E. Moore
Regional Engineer

	AMC II	AMC III
6 hr PMP	Passes at top of dam	Overtops with a max. depth of 0.4' with a duration of .66 hrs.
6 hr. $\frac{1}{2}$ PMP	Not routed	Passes with 3.7' of freeboard
ES design storm*	Passes with 2.5' of flow in emergency spillway and 5.4' of freeboard	Not routed
6 hr. P_{100}	Not routed	Passes below crest of emergency spillway
1-10 day P_{100}	Passes at crest of emergency spillway	Not routed

*Emergency spillway design storm $P=11.7$ inches in 6 hours
 AMC II routings are based on the emergency spillway design configuration of a 93' base and 7.9' maximum head.
 AMC III routings are based on the measured emergency spillway dimensions of an 82' base and maximum head of 8.8'.

McNARY CYPRESS CR #17

Pipe ROUTING

11 JUNE 81

2241

D.A = 621 AC

E = 6800 ft

I = 17%

RELEVANT SOIL GROUPS: SHIBOTA (H5R 1), CHLO (H5R 1), D.A. (H5R 1)

MINOR LAND USE: WOODS

R.C.N = 71 AMC II

= 86 AMC III

FLOOD = 5.9 INCHES

R = 2.84 INCHES

T₂ = 1.41h AMC II

T₃ = .89h AMC III

T₀ = 60 hr

HYDROGRAPH FAMILY # 2

I₀ = 5.2h

T₀/I₀ = 8.4

RET₀ = 10

RET₀ = 10

Q_P = 903 cfs/in

Q_{PA} = 3467 cfs

TIME	INFLOW	25% ₀ - 0	25% ₀ + 0	OUTFLOW
0	0	0	0	0
.33	7	7	7	0
.66	31	43	45	1
.98	94	164	168	2
1.31	218	466	476	5
1.64	818	1482	1502	10
1.97	1262	3532	3562	15
2.29	1064	5820	5858	19
2.62	784	7610	7668	29
2.95	596	8870	8990	60
3.28	412	97380	9938	91
3.60	392	10436	10620	92
3.93	336	10980	11164	92
4.26	295	11427	11611	92
4.59	270	11806	11992	93
4.91	257	12147	12333	93
5.24	239	12457	12643	93
5.57	194	12692	12880	94
5.90	87	12775	12963	94
6.22	31	12105	12893	94
6.55	14		12750	93
6.88	7			
7.21	3			
7.53	0			

PEAK PASSES

NO FLOW IN ES.

746 cfs x 73 hr = 54458 ac-ft

621 AC x 3.84 IN = 199 ac-ft

OK

McNAIKY CYPRESS #17

1/2 PMF (AMC III) HYDROGRAPH AND ROUTING

RCN 86

PMP = 29.75 IN

Q = 27.9 IN

$T_c = .89$ hr

$T_b = .62$ hr

HYDROGRAPH FAMILY # 1

$T_D = 5.85$ hr

$T_D/T_c = 9.4$

REV 7/2 10

REV 7/2 .59 hr

8 ft = 80.0 cfs

Q₈₁ = 21234 cfs

Q₈₀ 11123 cfs X PMF

TIME (hr)	INFLOW (cfs)	$\frac{2S}{\Delta t} - O$	$\frac{2S}{\Delta t} + O$	OUTFLOW (cfs)
0	0	0	0	0
.33	22	20	22	1
.66	146	184	188	2
.98	302	620	632	6
1.31	524	1428	1448	10
1.64	795	2723	2749	13
1.97	1288	4772	4806	17
2.29	3113	9039	9173	67
2.62	4412	16214	16564	175
2.95	3606	21232	23232	1000
3.28	2632	23650	27470	1910
3.60	1949	24011	28231	2110
3.93	1523	23653	27483	1915
4.26	1232		26408	1660
4.59	103			
4.91	885			
5.24	818			
5.57	762			
5.90	728			
6.22	594			
6.55	302			
6.88	124			
7.21	57			
7.53	34			
7.86	22			
8.19	11			
8.52	0			

1/2 PMF PASSES EL. 472.0

26950 + 32 = 729 Act 13.95 IN X 621 AL 722 Act 04

AD-A108 251

TENNESSEE STATE DEPT OF CONSERVATION NASHVILLE DIV 0--ETC F/G 13/13
NATIONAL PROGRAM OF INSPECTION OF NON-FEDERAL DAMS, TENNESSEE. --ETC(11)
SEP 81 B E MOORE DACW62-81-C-0056

UNCLASSIFIED

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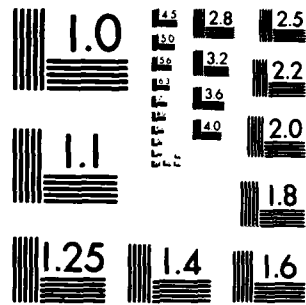
END

DATE

FORMED

1 82

DTIC



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

McNAIRY CYPRESS CK. #17

PMF ROUTING

24m

TIME (HR) INFLOW (cfs) $\frac{2\frac{1}{2}}{At} - 0$ $\frac{2\frac{1}{2}}{At} + 0$ OUTFLOW

0	0	0	0	0
.33	45	43	45	1
.66	291	371	379	4
.98	605	1249	1267	9
1.31	1053	2879	2907	14
1.64	1590	5484	5522	19
1.97	2576	9468	9650	91
2.29	6227	17671	18271	300
2.62	8825	26223	32723	3250
2.95	7212	29360	42260	6450
3.28	5263	29335	41835	6250
3.60	3897		38495	4950
3.93	3046			
4.26	2464			
4.59	2061			
4.91	1769			
5.24	1635			
5.57	1523			
5.90	1456			
6.22	1187			
6.55	605			
6.88	269			
7.21	134			
7.53	67			
7.86	45			
8.19	22			
8.52				

OVER TOPS EL 296.3 FT MSL
BELOW TOP OF DAM.

$\frac{0}{53867} \times \frac{(cfs)}{(hr)} = 1450 \text{ acft}$ $27.9 \text{ IN} \times 621 \text{ AC} = 1444 \text{ acft}$ 04

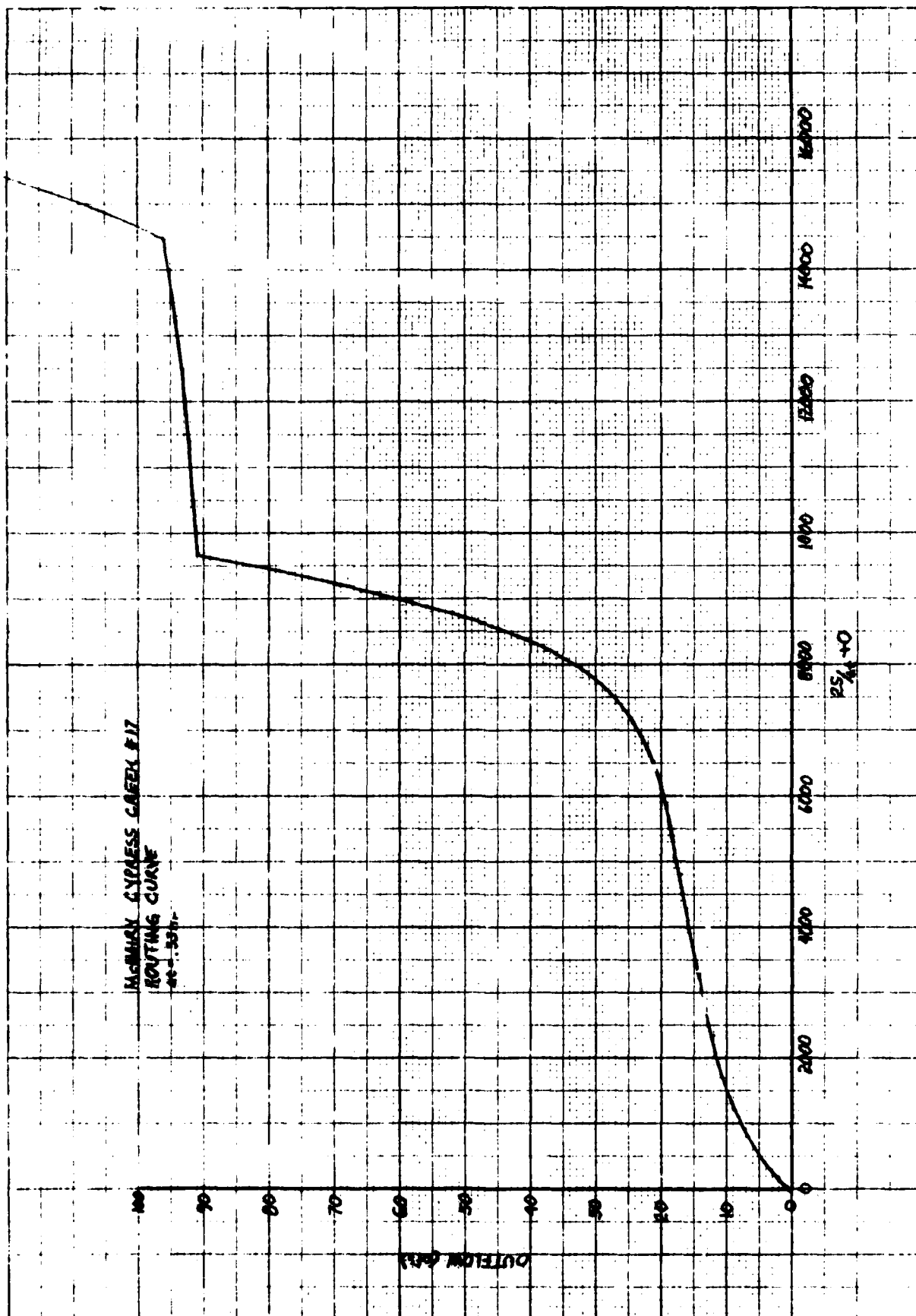
McNABRY CYPRESS CR #17

ROUTING CURVE

11 JUNE 91

56M

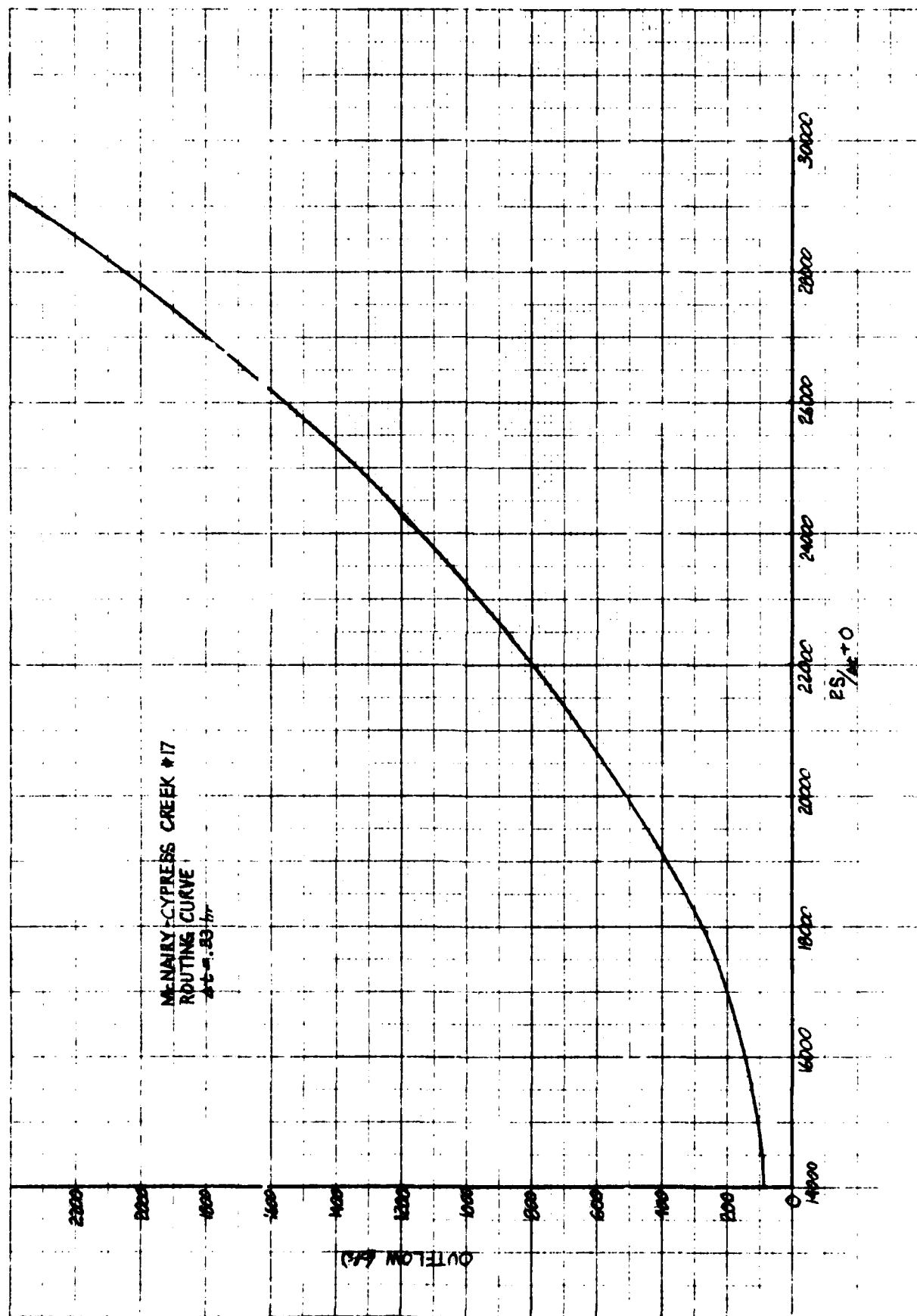
ELEVATION (FE MLL)	STORAGE (AC FE)	STORAGE (D&P)	S/AE (.327641 cfs)	OUTFLOW (cfs)	2S/AE + O (cfs)
477.5	0	0	0	0	0
478.0	1.5	.76	554	2	113
479.0	16.2	8.17	598.3	9	1206
480.0	31.4	15.83	1160	12	2332
482.0	68.1	34.33	2515	18	5049
484.0	111.6	56.26	4122	38	8282
484.5	123.6	62.31	4565	69	9199
484.76	129.7	65.39	4790	91	9672
486.0	162.1	81.72	5987	93	12067
487.1	194.3	97.96	7176	96	14449
487.6	209.8	105.77	7719	122	15560
488.6	239.9	120.95	8861	269	17991
490.0	284.1	143.2	10493	758	21744
492.5	362.1	182.6	13374	2383	29131
495.0	440.7	222.2	16277	4550	37109
496.0	471.7	237.5	17400	5650	40450
497.0	502.7	253.4	18565	9115	46846

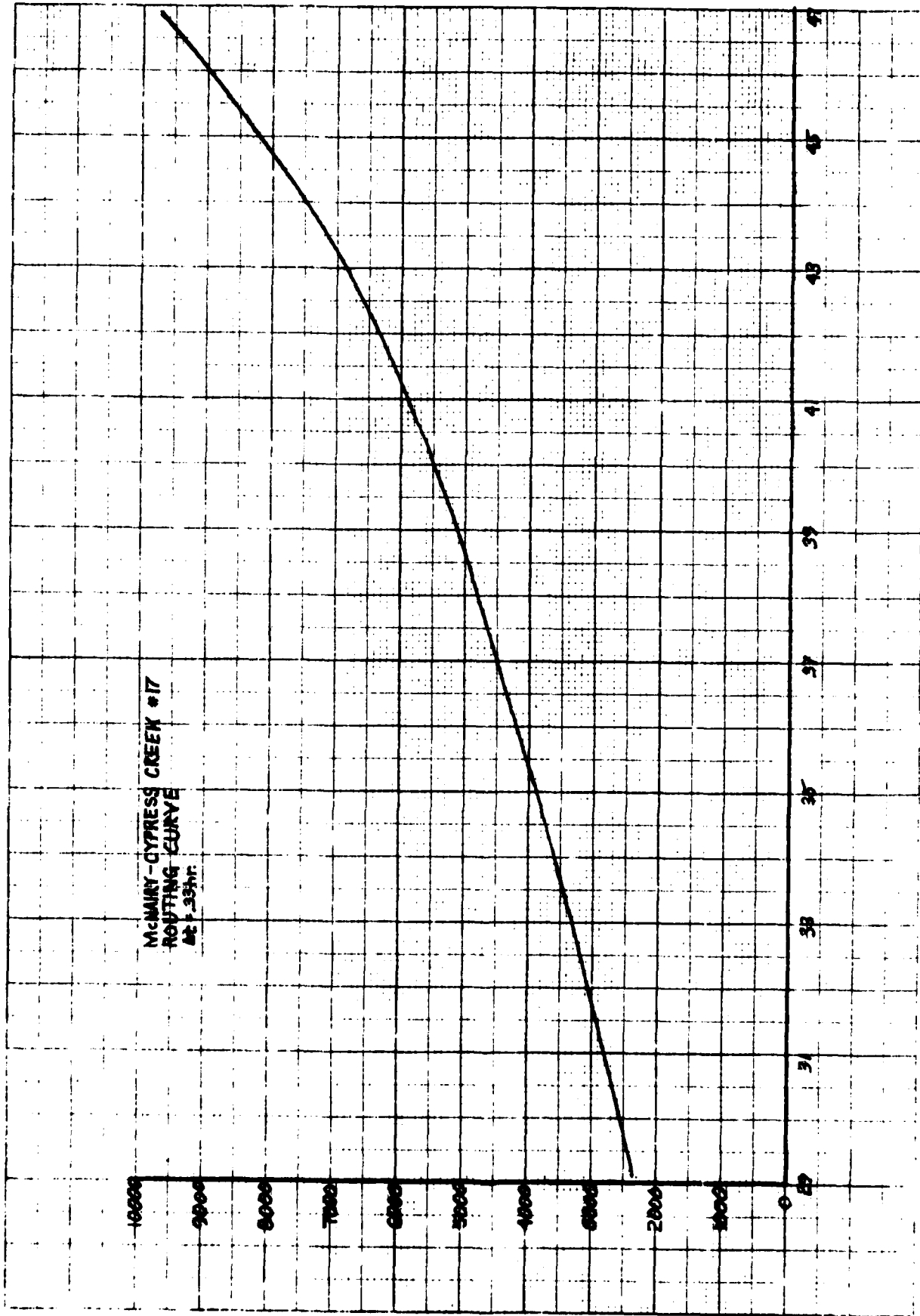


60

7

46 1240



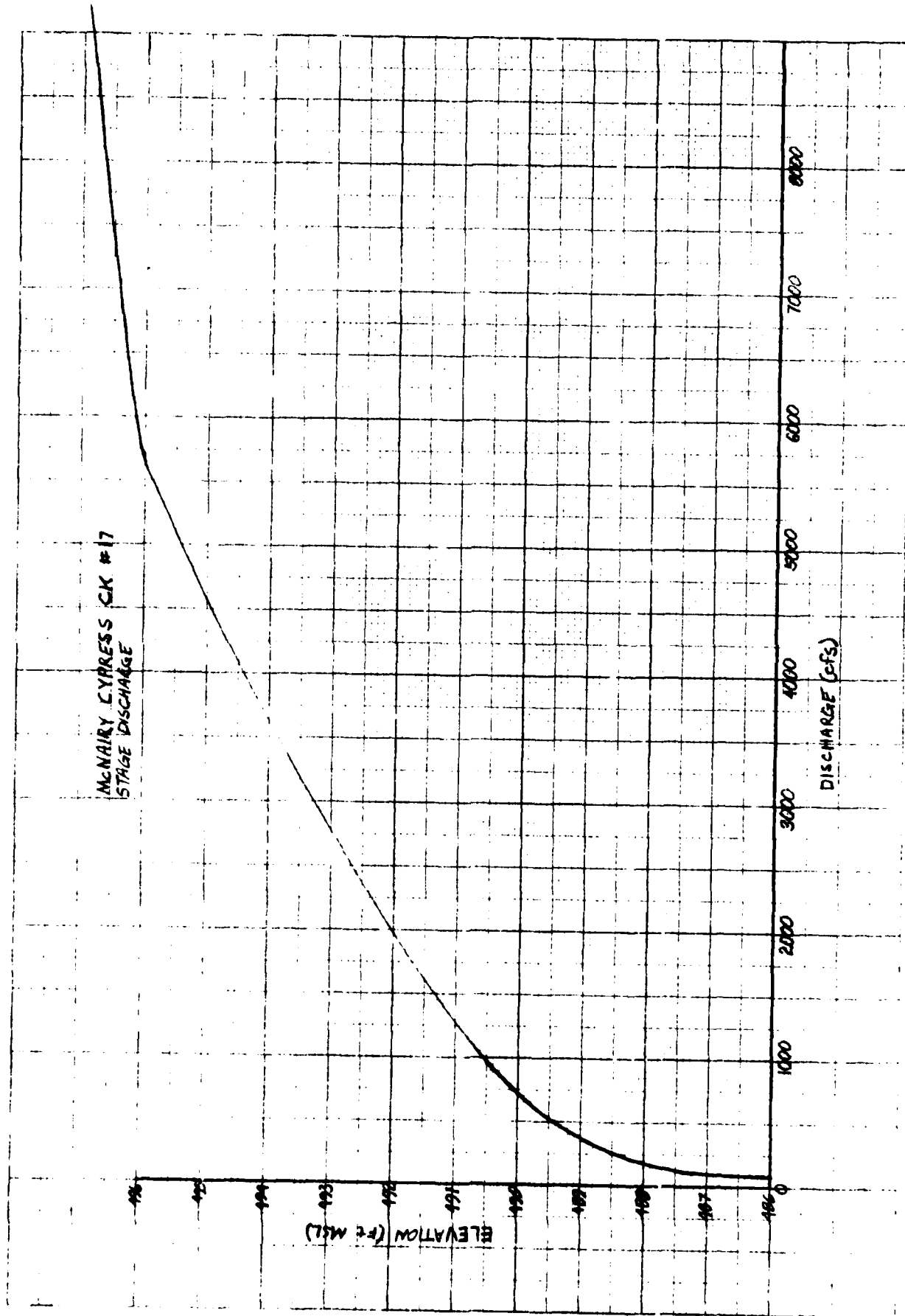


461240

MCNAIRY CYPRESS CK #17
STAGE DISCHARGE

ELEVATION (ft MSL)

DISCHARGE (cfs)



PRINCIPAL SPILLWAY HYDROGRAPH ROUTING
INPUT DATA SHEET NO. 1

REVISED 12-68
E & WP UNIT
FORT WORTH, TEXAS

CONTROL WORDS		SITE Dam No. 17.										STRUCTURE CLASS C.		CARD NUMBER	
TITLE1		W/S McNairy-Cypress CK.										STATE Tennessee.		DATE 11-22-76.	CARD NUMBER
TITLE2															2.

CURVE NUMBER	Tc OR W/S LENGTH IN FT.	W/S ELEV. DIFF. S(-) 1/	AREAL		RAINFALL	DRAINAGE AREA SQ. MI.	CARD NUMBER
			1-DAY	10-DAY			
71.	1.41		7.60	13.80		0.97	3.

BASE FLOW 2/ CHANNEL LOSS(-)	INVERT ELEV OR TAILWATER (-)	LOW STAGE CREST ELEV.	CONDUIT LENGTH (FT.)	MANNINGS "N"	SUM COEF. EXCEPT KP	CARD NUMBER
5.43	465.0	477.5	192.	0.012	2.0.	4.

ROUTING CODE 3/	PLOTING CODE 4/	VELOCITY FT./SEC.	LENGTH IN FEET	COEF. "C"	STREAM CODE 5/	CARD NUMBER
0.	0.				0.	5.

LOW WEIR	WIDTH FT. 6/	HEIGHT FT.	WIDTH FT.	HEIGHT FT.	WIDTH FT.	HEIGHT FT.	CARD NUMBER
	1.83	1.0					6.

HIGH WEIR	CREST ELEVATION	WIDTH FT.	HEIGHT FT.	CREST ELEVATION	WIDTH FT.	HEIGHT FT.	CARD NUMBER
	483.5	15.	1.25				7.

CONDUIT	CREST ELEVATION	WIDTH FT.	HEIGHT FT.	CONDUIT DIAMETER (INCHES) OR WIDTH & HEIGHT (FEET)	DIA-WIDTH	HEIGHT	DIA-WIDTH	HEIGHT	CARD NUMBER
					30.				8.

FOOTNOTES ON BACK

INPUT DATA SHEET NO. 2

**LET'S GO ONLY
WEST WORTH. TEXAS**

WATER SHED Dam No. 12, McNaity Cyp. DATE 11-22-76

DATE 11-22-76

FOOTNOTES ON THE LACK

TITLE1	SITE DAM NO. 17	STRUCTURE CLASS C	CK. W/S	11-30-76
TITLE2	PC NAIRY-CYPRESS	TENNESSEE		
MYCRC	71.	1.41		.97
PS INFO	5.43	465.	477.5	13.80
LCA WEIR	1.83	1.		.012
HIGH WEIR	483.5	15.	1.25	2.
CONCUIT	30.			
STAGE-CFS	477.5	65.9		
STAGE-CFS	477.9	66.		
STAGE-CFS	478.5	74.5		
STAGE-CFS	480.	97.3		
STAGE-CFS	482.	134.		
STAGE-CFS	483.5	166.		
STAGE-CFS	484.	177.5		
STAGE-CFS	484.5	189.5		
STAGE-CFS	485.	201.		
STAGE-CFS	485.5	215.		
STAGE-CFS	486.	228.		
STAGE-CFS	487.	257.		
STAGE-CFS	488.	286.5		
STAGE-CFS	489.	318.5		
STAGE-CFS	490.	350.		
ENC TABLE				

SITE DAM NO. 17		STRUCTURE CLASS C		TENNESSEE 11-30-76	
MC NAIRY-CYPRESS CK. W/S		ELEVATION		STORAGE	
				DISCHARGE	
477.50	477.50	65.90	0.00		
478.00	478.00	67.41	2.00		
479.00	479.00	68.09	8.80		
479.99	479.99	97.29	12.45		
480.99	480.99	115.64	15.25		
481.99	481.99	133.99	17.61		
483.50	483.50	166.00	20.65		
484.00	484.00	177.49	38.01		
484.50	484.50	189.50	68.95		
484.74	484.74	195.24	88.28		
484.76	484.76	195.59	90.41		
485.00	485.00	201.00	91.02		
485.49	485.49	214.92	92.22		
485.99	485.99	227.86	93.40		
486.49	486.49	242.27	94.57		
486.98	486.98	256.70	95.72		
487.48	487.48	271.37	96.87		
487.98	487.98	286.04	97.99		
488.48	488.48	301.92	99.11		
488.97	488.97	317.84	100.21		
489.47	489.47	333.52	101.30		
489.97	489.97	349.19	102.38		
490.47	490.47	364.86	103.45		
490.96	490.96	380.53	104.51		
491.46	491.46	396.20	105.55		
491.96	491.96	411.86	106.59		
492.46	492.46	427.53	107.51		

TIME	INFLOW	AVE IN	OUTFLOW	ELEV.	STORAGE
6.00	9.28	9.27	2.82	478.11	69.17
12.00	9.45	9.44	4.16	478.31	72.07
18.00	9.64	9.63	5.27	478.48	74.46
24.00	9.86	9.84	6.19	478.61	76.45
30.00	10.09	10.07	6.97	478.72	78.13
36.00	10.36	10.34	7.63	478.82	79.57
42.00	10.66	10.63	8.23	478.91	80.85
48.00	11.01	10.98	8.76	478.99	82.00
54.00	11.41	11.37	9.05	479.06	83.14
60.00	11.88	11.83	9.34	479.14	84.35
66.00	12.44	12.39	9.66	479.23	85.66
72.00	13.12	13.06	10.01	479.33	87.12
78.00	13.97	13.89	10.40	479.43	88.77
84.00	15.07	14.97	10.87	479.56	90.69
90.00	16.54	16.40	11.42	479.71	92.98
96.00	18.62	18.42	12.10	479.90	95.84
102.00	21.86	21.53	12.81	480.12	99.63
108.00	27.71	27.06	13.66	480.43	105.21
114.00	42.21	40.31	15.12	480.95	114.79
120.00	737.31	427.48	24.68	483.61	168.66
124.00	78.24	99.12	95.93	487.07	259.33
MAXIMUM STORAGE OBTAINED. DRAW-DOWN BEGINS.					
1.00	5.26	5.26	20.05	483.20	159.67
2.00	5.26	5.26	17.48	481.94	132.94
3.00	5.26	5.26	14.63	480.77	111.58
4.00	5.26	5.26	12.04	479.88	95.56
5.00	5.26	5.26	9.47	479.18	84.87
6.00	5.26	5.26	7.23	478.76	78.71
7.00	5.26	5.26	6.05	478.59	76.15
8.00	5.26	5.26	5.58	478.52	75.13
9.00	5.26	5.26	5.39	478.49	74.72
10.00	5.26	5.26	5.31	478.48	74.56

MAXIMUM STORAGE IS 259.3 ACRE FEET (5.012 INCHES) AT ELEV. 487.07 (CREST, EMER. SPW.).

NET DETENTION STORAGE REQUIRED IS 193.5 ACRE FEET (3.741 INCHES).

CROSS STORAGE REMAINING AFTER DRAWDOWN 74.5 ACRE FEET (1.441 INCHES)
AT ELEV. 478.48 (START EMER. SPW. AND FREEBOARD ROUTINGS).

NET REMAINING STORAGE IS 8.7 ACRE FEET (0.169 INCHES).

PRINCIPAL SPILLWAY ROUTING SUMMARY

PAGE NO. 6

SITE DAM NO. 17 STRUCTURE CLASS C
MC NAIKY-CYPRESS CK. W/S TENNESSEE 11-30-76

PARAMETER	MAXIMUM		NET DETENTION		GROSS REMAINING		NET REMAINING	
	ELEV.	STORAGE	INCHES	STORAGE	ELEV.	STORAGE	STORAGE	INCHES
3C.	487.07	259.3	5.012	193.5	478.48	74.5	8.7	0.16

EMERGENCY SPILLWAY HYDROGRAPH DESIGN

Page 7 of 4

CONTROL WORDS		DAM NO. 17 - McNAULY-CYPRESS CREEK WHITE, TENNESSEE										CARD NUMBER
TITLE 1		STRUCTURE CLASS		DATE		DRAINAGE		AREA		Sq. MI.		
TITLE 2		AREA RAINFALL		FREEBOARD		EM. SPV.		SIDE SLOPE		EM. SPV.		
TITLE 3		RATIO, Z		SLOPE, 3		SLOPE, 3		SLOPE, 3		SLOPE, 3		
HYDRO		71	1.41	6	4	2	11.72	4	0.92	75		
SPILLWAY		482.1	3	2	4	2	3	4	0.92	76		
ROUTING		CODE 5/	CODE 5/	PLOTTING		STREAM ROUTING INFORMATION		SERIES SITES ONLY				
GENERAL		0	0	VELOCITY FT/SEC		LENGTH FT.		COEFF. "C"		STREAM CODE		
SPW. SIZE		70	200	100		200		180		200		
STAGE-CFS		8/	477.50	74.50		Q, cfs No. 1		Q, cfs No. 2		Q, cfs No. 3		
STAGE-CFS			478.48	74.51		5.3		5.3		5.3		79
STAGE-CFS			479	82.1		8.8		8.8		8.8		80
STAGE-CFS			480	92.3		12.5		12.5		12.5		81
STAGE-CFS			482	134		17.6		17.6		17.6		82
STAGE-CFS			483.5	166		20.6		20.6		20.6		83
STAGE-CFS			484	172.5		30		30		30		84
STAGE-CFS			484.76	195.6		90.4		90.4		90.4		85
STAGE-CFS			485	201		91		91		91		86
STAGE-CFS			486	228		93.5		93.5		93.5		87
STAGE-CFS			487.1	260.2		96.0		96.0		96.0		88
STAGE-CFS			487.16	274.9		97.1		97.1		97.1		89
STAGE-CFS			488.1	289.8		98.3		98.3		98.3		90
STAGE-CFS			488.16	305.8		99.4		99.4		99.4		91
STAGE-CFS			489.1	321.9		100.5		100.5		100.5		92
STAGE-CFS			490	350		102.4		102.4		102.4		93
STAGE-CFS			491	381		105		105		105		94
STAGE-CFS			492.5	428		108		108		108		95
STAGE-CFS												96
STAGE-CFS												
END TABLE		FOOTNOTES ON REVERSE SIDE										97
END JOB		KEYPUNCH NOTE Uniform to column fields. Punch decimals and control words.										

Page 5 of 6

CONTROL WORDS		Page 3 of 6									
TITLE 1	DAM NO. 17 - MCNAIRY-CYPRESS CREEK WATERSHED.										CARD NUMBER
TITLE 2	MCNAIRY COUNTY, TENNESSEE, STRUCTURE CLASS C, DATE 12-13-76.										99.
HYDRO	CURVE NUMBER	TIME OF CONCENTRATION	RAINFALL DURATION	AREA RAINFALL		DRAINAGE AREA Sq. MI.	CARD NUMBER				
				EM. SPW.	FREEBOARD						
	71.	1.41	6.	29.75		0.97		100.			
	EM.SPW. CREST ELEVATION	CASE NUMBER	FULL PRINT	SIDE SLOPE RATIO, Z		EM.SPW.		100.			
	447.1	31	41	3.				101.			
SPILLWAY	ROUTING CODE 51	PLOTTING CODE 61	STREAM ROUTING INFORMATION SERIES SITES ONLY								
			VELOCITY FT./SEC	LENGTH FT.	CORRS. "C"	STREAM CODE 71					
GENERAL	0.	0.					102.				
	Bo 1	L 1	Bo2	L 2	Bo 3	L 3	103.				
SPW. SIZE	70.	200.	100.	200.	100.	200.	103.				

STAGE-CFS	ELEVATION	STORAGE AC. FT.	Q, cfs No. 1	Q, cfs No. 2	Q, cfs No. 3
8/	477.5	65.9	0.	0.	0.
STAGE-CFS	477.9	66.0	2.	2.	2.
STAGE-CFS	479.	82.1	8.8	8.8	8.8
STAGE-CFS	480.	97.3	12.5	12.5	12.5
STAGE-CFS	482.	134.	17.6	17.6	17.6
STAGE-CFS	483.5	166.	20.6	20.6	20.6
STAGE-CFS	484.	177.5	38.	38.	38.
STAGE-CFS	484.76	195.6	90.4	90.4	90.4
STAGE-CFS	485.	201.	91.	91.	91.
STAGE-CFS	486.	228.	93.5	93.5	93.5
STAGE-CFS	487.1	260.2	96.3	96.0	96.0
STAGE-CFS	487.6	274.7	97.1	97.1	97.1
STAGE-CFS	488.1	289.8	98.3	98.3	98.3
STAGE-CFS	488.6	305.8	99.4	99.4	99.4
STAGE-CFS	489.1	321.9	100.5	100.5	100.5
STAGE-CFS	490.	350.	102.4	102.4	102.4
STAGE-CFS	491.	381.	105.	105.	105.
STAGE-CFS	492.5	428.	108.	108.	108.
STAGE-CFS					
STAGE-CFS					
STAGE-CFS					
STAGE-CFS					
END TABLE					

FOOTNOTES ON REVERSE SIDE

RE-PUNCH NOTE: Uniform to column fields. Punch decimals and control words

122.

U.S. AIR FORCE 128 1974

5, L-29, 933.1(2)

TITLE1 CAP NO. 17-MCNAIRY-CYPRESS CREEK WATERSHED

TITLE2 MCNAIRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-70

HYDRC 71. 1.41 6. 11.72 .97

SPILLWAY 487.1 1. 2. 3. 2.5

SPA-SIZE 70. 400. 75. 400. 80. 400.

STAGE-CFS 477.50 74.50 0. 0. 0.

STAGE-CFS 478.48 74.51 5.3 5.3 5.3

STAGE-CFS 479. 82.1 8.8 8.8 8.8

STAGE-CFS 480. 97.3 12.5 12.5 12.5

STAGE-CFS 482. 134. 17.6 17.6 17.6

STAGE-CFS 483.5 166. 20.6 20.6 20.6

STAGE-CFS 484. 177.5 38. 38. 38.

STAGE-CFS 484.76 195.6 90.4 90.4 90.4

STAGE-CFS 485. 201. 91. 91. 91.

STAGE-CFS 486. 228. 93.5 93.5 93.5

STAGE-CFS 487.1 240.2 96. 96. 96.

STAGE-CFS 487.6 274.9 97.1 97.1 97.1

STAGE-CFS 488.1 289.6 98.3 98.3 98.3

STAGE-CFS 488.6 305.8 99.4 99.4 99.4

STAGE-CFS 489.1 321.9 100.5 100.5 100.5

STAGE-CFS 490. 350. 102.4 102.4 102.4

STAGE-CFS 491. 381. 105. 105. 105.

STAGE-CFS 492.5 428. 108. 108. 108.

ENC TABLE

COMPUTED DISCHARGE FOR CASE 1.

ELEV= 477.50	STORAGE=	74.5	1ST DISCH=	0.0	2ND DISCH=	0.0	3RD DISCH=	0.0
ELEV= 478.47	STORAGE=	74.5	1ST DISCH=	5.3	2ND DISCH=	5.3	3RD DISCH=	5.3
ELEV= 479.00	STORAGE=	82.1	1ST DISCH=	8.8	2ND DISCH=	8.8	3RD DISCH=	8.8
ELEV= 480.00	STORAGE=	97.3	1ST DISCH=	12.5	2ND DISCH=	12.5	3RD DISCH=	12.5
ELEV= 482.00	STORAGE=	134.0	1ST DISCH=	17.6	2ND DISCH=	17.6	3RD DISCH=	17.6
ELEV= 483.50	STORAGE=	166.0	1ST DISCH=	20.6	2ND DISCH=	20.6	3RD DISCH=	20.6
ELEV= 484.00	STORAGE=	177.5	1ST DISCH=	38.0	2ND DISCH=	38.0	3RD DISCH=	38.0
ELEV= 484.76	STORAGE=	195.6	1ST DISCH=	90.4	2ND DISCH=	90.4	3RD DISCH=	90.4
ELEV= 485.00	STORAGE=	201.0	1ST DISCH=	91.0	2ND DISCH=	91.0	3RD DISCH=	91.0
ELEV= 486.00	STORAGE=	228.0	1ST DISCH=	93.5	2ND DISCH=	93.5	3RD DISCH=	93.5
ELEV= 487.10	STORAGE=	260.2	1ST DISCH=	96.0	2ND DISCH=	96.0	3RD DISCH=	96.0
ELEV= 487.60	STORAGE=	274.9	1ST DISCH=	119.8	2ND DISCH=	119.8	3RD DISCH=	121.3
ELEV= 488.10	STORAGE=	289.8	1ST DISCH=	160.6	2ND DISCH=	165.0	3RD DISCH=	169.3
ELEV= 488.60	STORAGE=	305.8	1ST DISCH=	245.3	2ND DISCH=	255.3	3RD DISCH=	265.4
ELEV= 489.10	STORAGE=	321.9	1ST DISCH=	366.8	2ND DISCH=	384.8	3RD DISCH=	402.8
ELEV= 490.00	STORAGE=	350.0	1ST DISCH=	668.3	2ND DISCH=	653.7	3RD DISCH=	643.6
ELEV= 491.00	STORAGE=	381.0	1ST DISCH=	1135.0	2ND DISCH=	1201.2	3RD DISCH=	1267.4
ELEV= 492.50	STORAGE=	428.0	1ST DISCH=	2088.6	2ND DISCH=	2211.2	3RD DISCH=	2333.7

CAN NO. 17-MCNAIRY-CYPRESS CREEK WATERSHED
MCNAIRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

PAGE NO. 68

EMER. SPW. UNCONTROLLED AREA HYDROGRAPH.

RUNOFF = 7.93 IN., VOL. = 410. AC.FT.

TIME	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75
0.00	0.00	0.00	0.00	0.00	0.28	3.83	18.32	57.17
2.00	147.24	357.69	755.39	1279.78	1717.07	1895.45	1874.10	1615.74
4.00	1386.05	1194.86	1043.18	923.60	827.87	749.29	684.63	626.31
6.00	576.11	526.35	463.76	370.75	270.49	181.84	116.57	76.29
8.00	50.00	32.47	21.01	13.50	8.61	5.42	3.30	1.94
10.00	1.06	0.48	0.12	0.00				

UAM NO. 17-MCNAIRY-CYPRSS CREEK WATERSHED
MCNAIRY COUNTY, TENNESSEE
STRUCTURE CLASS C 01-23-78

EMEQ.SPW. ROUTING BOTTOM WIDTH= 70.0 ENTRANCE LENGTH= 400.0

TIME	INFLW	AVE INFLW	OUTFLOW	STORAGE	ELEVATION	V/C (ES Q ONLY)	V/C
0.25	0.00	0.00	0.00	74.50	477.50		
0.50	0.00	0.00	0.00	74.50	477.50		
0.75	0.00	0.00	0.00	74.50	477.50		
1.00	0.28	0.14	0.24	74.50	477.51		
1.25	3.83	2.06	3.32	74.51	474.11		
1.50	18.32	11.07	5.36	74.65	478.49		
1.75	57.17	37.74	5.67	75.31	478.53		
2.00	147.24	102.20	6.58	77.30	478.67		
2.25	357.69	252.47	8.86	82.35	479.02		
2.50	755.39	556.54	11.61	93.64	479.76		
2.75	1279.78	1017.59	14.48	114.39	480.93		
3.00	1717.07	1498.42	18.63	145.00	482.52		
3.25	1895.45	1806.26	49.92	181.62	484.17		
3.50	1824.10	1859.78	92.63	218.57	485.65		
3.75	1615.74	1719.92	95.38	252.16	486.83		
4.00	1386.05	1500.89	135.13	280.79	487.80	NON CRITICAL FLOW	
4.25	1194.66	1290.45	233.97	303.53	488.53	NON CRITICAL FLOW	
4.50	1043.12	1119.02	357.47	320.65	489.06	NON CRITICAL FLOW	
4.75	923.67	983.63	478.81	332.33	489.43	NON CRITICAL FLOW	
5.00	827.87	875.78	546.03	339.71	489.67	NON CRITICAL FLOW	
5.25	749.29	788.58	604.04	344.00	489.81	NON CRITICAL FLOW	
5.50	684.63	716.96	626.57	346.10	489.88	NON CRITICAL FLOW	
5.75	626.31	655.47	632.34	346.64	489.89	NON CRITICAL FLOW	
6.00	576.11	601.21	626.13	346.06	489.87	NON CRITICAL FLOW	
6.25	526.11	546.11	626.13	346.06	489.87	NON CRITICAL FLOW	
6.50	476.11	496.11	626.13	346.06	489.87	NON CRITICAL FLOW	
6.75	426.11	446.11	626.13	346.06	489.87	NON CRITICAL FLOW	
7.00	376.11	396.11	626.13	346.06	489.87	NON CRITICAL FLOW	
7.25	326.11	346.11	626.13	346.06	489.87	NON CRITICAL FLOW	
7.50	276.11	296.11	626.13	346.06	489.87	NON CRITICAL FLOW	
7.75	226.11	246.11	626.13	346.06	489.87	NON CRITICAL FLOW	
8.00	176.11	196.11	626.13	346.06	489.87	NON CRITICAL FLOW	
8.25	126.11	146.11	626.13	346.06	489.87	NON CRITICAL FLOW	
8.50	76.11	96.11	626.13	346.06	489.87	NON CRITICAL FLOW	
8.75	26.11	46.11	626.13	346.06	489.87	NON CRITICAL FLOW	
9.00	0.00	0.00	626.13	346.06	489.87	NON CRITICAL FLOW	

VOLUME CHECK AT HP= 0.01. COMPUTED HP= 2.78 AT ELEV. 489.89 (STORAGE IS 346.6 AC.FT.= 6.70 IN.)
TIME= 5.75 HOURS CRITICAL VELOCITY= 6.14 CRITICAL DEPTH= 1.17 CRITICAL SLOPE= 2.20.

PEAK INFLOW	1,075 CFS
TOTAL VOL. THRU FMR SPILLWAY	147 AC-FT.
ASCENDING VOL. THRU EMER SPILLWAY	58 AC-FT.
PEAK OUTFLOW	64 CFS

EXIT CHANNEL VELOCITY = 6.37
= 2.110 AC-FT PER FT. WIDTH

DURATION OF FLOW= 8.25

EMER.SPH. ROUTING BOTTOM WIDTH= 80.0 ENTRANCE LENGTH= 400.0

TIME	INFLOW	AVE INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (ES Q ONLY)	V/E
0.25	0.00	0.00	0.00	74.50	477.50		
0.50	0.00	0.00	0.00	74.50	477.50		
0.75	0.00	0.00	0.00	74.50	477.50		
1.00	0.28	0.14	0.24	74.50	477.55		
1.25	3.83	2.06	3.32	74.51	478.11		
1.50	18.32	11.07	5.36	74.65	478.49		
1.75	57.17	37.74	5.67	75.31	478.53		
2.00	147.24	102.20	6.50	77.30	478.67		
2.25	252.69	252.47	8.86	82.35	479.02		
2.50	755.39	556.54	11.61	93.64	479.76		
2.75	1279.78	1017.59	14.88	114.39	480.93		
3.00	1717.07	1498.42	18.63	145.03	482.52		
3.25	1875.45	1806.26	49.92	181.62	484.17		
3.50	1824.10	1859.78	32.63	218.57	485.65		
3.75	1615.74	1719.92	95.38	252.14	486.83		
4.00	1386.05	1500.89	140.20	280.74	487.80		
4.25	1194.86	1290.45	250.77	303.36	488.52		
4.50	1043.18	1119.02	385.87	319.91	489.04		
4.75	923.69	983.43	512.39	330.95	489.39		
5.00	827.87	875.78	593.18	337.62	489.60		
5.25	749.29	788.58	616.62	341.21	489.72		
5.50	624.63	716.96	654.48	342.68	489.77		
5.75	626.31	655.47	654.70	342.70	489.77		
6.00	576.11	601.21	642.81	341.72	489.73		
10.00	1.06	1.50	135.57	279.30	487.75		

VOLUME CHECK AT HP = 0.09. COMPUTED HP = 2.66 AT ELEV. 489.77 (STORAGE IS 342.6 AC.-FT. = 6.62 IN.)
TIME = 5.50 HOURS CRITICAL DEPTH = 5.97 CRITICAL VELOCITY = 1.10 CRITICAL SLOPE = 2.25.

	1895.	CFS
PEAK INFLOW	=	150. AC-FT.
TOTAL VOL. THRU EMER SPILLWAY	=	51. AC-FT.
ASCENDING VOL. THRU EMER SPILLWAY	=	654. CFS
PEAK OUTFLOW	=	1,880 AC-FT
CE/3		

DURATION OF FLOW= 8.00

EXIT CHANNEL VELOCITY = 6.16

TITLE1 DAM NO. 17-MCNAIRY-CYPRESS CREEK WATERSHED

TITLE2 MCNAIRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

HYDUC 71. 1.41 6. 11.72 .97

SPILLWAY 487.1 1. 2. 3. 2.5

SPH-SIZE 85. 400. 90. 400. 95. 400.

STAGE-CFS 477.50 74.50 0. 0. 0. 0.

STAGE-CFS 478.48 74.51 5.3 5.3 5.3

STAGE-CFS 479. 82.1 8.8 8.8 8.8

STAGE-CFS 480. 97.3 12.5 12.5 12.5

STAGE-CFS 482. 134. 17.6 17.6 17.6

STAGE-CFS 483.5 166. 20.6 20.6 20.6

STAGE-CFS 484. 177.5 38. 38. 38.

STAGE-CFS 484.76 195.6 90.4 90.4 90.4

STAGE-CFS 485. 201. 91. 91. 91.

STAGE-CFS 486. 224. 93.5 93.5 93.5

STAGE-CFS 487.1 260.2 96. 96. 96.

STAGE-CFS 487.6 274.9 97.1 97.1 97.1

STAGE-CFS 488.1 287.8 98.3 98.3 98.3

STAGE-CFS 488.6 305.8 99.4 99.4 99.4

STAGE-CFS 489.1 321.9 100.5 100.5 100.5

STAGE-CFS 490. 350. 102.4 102.4 102.4

STAGE-CFS 491. 381. 105. 105. 105.

STAGE-CFS 492.5 428. 108. 108. 108.

ENC TABLE

DAM NO. 17-MCHAIKY-CYPRESS CREEK WATERSHED
MCHAIKY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

PAGE NO. 73

COMPUTED DISCHARGE FOR CASE 1.

ELEV= 477.50	STORAGE= 74.5	1ST DISCH= 0.0	2ND DISCH= 0.0	3RD DISCH= 0.0
ELEV= 478.47	STORAGE= 74.5	1ST DISCH= 5.3	2ND DISCH= 5.3	3RD DISCH= 5.3
ELEV= 479.00	STORAGE= 82.1	1ST DISCH= 8.8	2ND DISCH= 8.8	3RD DISCH= 8.8
ELEV= 480.00	STORAGE= 97.3	1ST DISCH= 12.5	2ND DISCH= 12.5	3RD DISCH= 12.5
ELEV= 482.00	STORAGE= 134.0	1ST DISCH= 17.6	2ND DISCH= 17.6	3RD DISCH= 17.6
ELEV= 483.50	STORAGE= 166.0	1ST DISCH= 20.6	2ND DISCH= 20.6	3RD DISCH= 20.6
ELEV= 484.00	STORAGE= 177.5	1ST DISCH= 38.0	2ND DISCH= 38.0	3RD DISCH= 38.0
ELEV= 484.76	STORAGE= 195.6	1ST DISCH= 90.4	2ND DISCH= 90.4	3RD DISCH= 90.4
ELEV= 485.00	STORAGE= 201.0	1ST DISCH= 91.0	2ND DISCH= 91.0	3RD DISCH= 91.0
ELEV= 486.00	STORAGE= 228.0	1ST DISCH= 93.5	2ND DISCH= 93.5	3RD DISCH= 93.5
ELEV= 487.10	STORAGE= 260.2	1ST DISCH= 96.0	2ND DISCH= 96.0	3RD DISCH= 96.0
ELEV= 487.60	STORAGE= 274.9	1ST DISCH= 122.8	2ND DISCH= 124.3	3RD DISCH= 125.8
ELEV= 488.10	STORAGE= 289.8	1ST DISCH= 173.6	2ND DISCH= 178.0	3RD DISCH= 182.3
ELEV= 488.60	STORAGE= 305.8	1ST DISCH= 275.4	2ND DISCH= 285.4	3RD DISCH= 295.4
ELEV= 489.10	STORAGE= 321.9	1ST DISCH= 420.8	2ND DISCH= 438.8	3RD DISCH= 456.8
ELEV= 490.00	STORAGE= 350.0	1ST DISCH= 780.3	2ND DISCH= 817.7	3RD DISCH= 855.0
ELEV= 491.00	STORAGE= 381.0	1ST DISCH= 1333.6	2ND DISCH= 1399.8	3RD DISCH= 1466.0
ELEV= 492.50	STORAGE= 428.0	1ST DISCH= 2456.3	2ND DISCH= 2578.9	3RD DISCH= 2701.4

DAM NO. 17-MCHAINY-CYPRESS CREEK WATERSHED
MCHAINY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

PAGE NO. 74

EMER. SPN. UNCONTROLLED AREA HYDROGRAPH.

RUNOFF = 7.93 IN. VOL. = 410. AC.FT.

TIME +	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75
0.00 +	0.00	0.00	0.00	0.00	0.28	3.83	18.12	57.17
2.00 +	147.24	357.69	755.39	1279.78	1717.07	1895.44	1824.10	1615.74
4.00 +	1386.05	1194.86	1043.14	923.69	827.87	749.29	684.63	626.31
6.00 +	576.11	528.35	463.76	370.75	270.49	181.44	116.57	76.29
8.00 +	50.00	32.47	21.01	13.50	8.61	5.42	3.30	1.94
10.00 +	1.06	0.48	0.12	0.00				

DAM NO. 17-MCNARY-CYPRESS CREEK WATERSHED
MCNARY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

EMER.SPM. ROUTING BOTTOM WIDTH= 85.0 ENTRANCE LENGTH= 400.0

TIME	INFLOW	Avg. INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (LS 0 ONLY)	V/E
0.25	0.00	0.00	0.00	74.50	477.50		
0.50	0.00	0.00	0.00	74.50	477.50		
0.75	0.00	0.00	0.00	74.50	477.50		
1.00	0.28	0.14	0.24	74.50	477.55		
1.25	3.83	2.06	3.32	74.51	478.11		
1.50	18.32	11.07	5.36	74.65	478.49		
1.75	57.17	37.74	5.67	75.31	478.53		
2.00	147.24	102.20	6.18	77.30	478.77		
2.25	357.69	252.47	8.86	82.35	479.02		
2.50	755.39	556.94	11.61	93.64	479.76		
2.75	1279.78	1017.59	14.88	114.39	480.93		
3.00	1717.07	1498.42	18.63	145.00	482.52		
3.25	1895.45	1806.26	49.92	181.62	484.17		
3.50	1824.10	1859.78	92.63	218.57	485.65		
3.75	1615.74	1719.92	95.38	252.16	486.83		
4.00	1386.05	1500.89	142.72	280.71	487.79	NON CRITICAL	FLOW
4.25	1194.86	1290.45	259.03	303.22	490.52	NON CRITICAL	FLOW
4.50	1043.18	1119.02	399.59	319.54	489.03	NON CRITICAL	FLOW
4.75	923.69	983.43	528.07	330.28	489.17	5.38	5.44
5.00	827.87	875.78	609.25	336.62	489.57	5.70	5.82
5.25	749.29	780.58	631.11	339.90	499.08	5.64	6.01
5.50	684.63	716.96	666.49	341.10	483.71	5.90	6.07
5.75	626.31	655.47	663.92	340.90	489.71	5.89	6.06
6.00	575.00	600.00	663.92	340.90	489.71	5.89	6.06
6.25	525.00	550.00	663.92	340.90	489.71	5.89	6.06
6.50	475.00	500.00	663.92	340.90	489.71	5.89	6.06
6.75	425.00	450.00	663.92	340.90	489.71	5.89	6.06
7.00	375.00	400.00	663.92	340.90	489.71	5.89	6.06
7.25	325.00	350.00	663.92	340.90	489.71	5.89	6.06
7.50	275.00	300.00	663.92	340.90	489.71	5.89	6.06
7.75	225.00	250.00	663.92	340.90	489.71	5.89	6.06
8.00	175.00	200.00	663.92	340.90	489.71	5.89	6.06
8.25	125.00	150.00	663.92	340.90	489.71	5.89	6.06
8.50	75.00	100.00	663.92	340.90	489.71	5.89	6.06
8.75	25.00	50.00	663.92	340.90	489.71	5.89	6.06
9.00	0.00	0.00	663.92	340.90	489.71	5.89	6.06

VOLUME CHECK AT HP= 0.05. COMPUTED HP= 2.60 AT CLEV. 489.71 (STORAGE IS 341.1 AC.FT.= 6.59 IN.)
 TIME= 5.50 HOURS CRITICAL VELOCITY= 5.90 CRITICAL DEPTH= 1.08 CRITICAL SLOPE= 2.26.

PEAK INFLCH	=	1095. LFS
TOTAL VOL. THRU FPLR SPILLWAY	=	151. AC-FT.
ASCENDING VOL. THRU CMER SPILLWAY	=	52. AC-FT.
PEAK GULFCH	=	666. LFS
CF/10	=	1.783 AC-FT P
EXIT CHANNEL VELOCITY	=	6.07

DISCAL: C. OF FLOW= 7.75

EMER.SPM. ROUTING									
		BOTTOM WIDTH= 90.0		ENTRANCE LENGTH= 400.0					
TIME	INFLW	AVE INFLW	OUTFLOW	STORAGE	ELEVATION	V/C (ES Q ONLY)	V/E		
0.25	0.00	0.00	0.00	74.50	477.50				
0.50	0.00	0.00	0.00	74.50	477.50				
0.75	0.00	0.00	0.00	74.50	477.50				
1.00	0.28	0.14	0.24	74.50	477.55				
1.25	3.63	2.06	3.32	74.51	478.11				
1.50	18.32	11.07	5.36	74.65	478.49				
1.75	57.17	37.74	5.67	75.31	478.53				
2.00	147.24	102.20	6.58	77.30	478.67				
2.25	357.69	252.47	8.66	82.35	479.02				
2.50	755.39	556.54	11.61	93.64	479.76				
2.75	1279.78	1017.59	14.88	114.39	480.93				
3.00	1717.07	1498.42	18.63	145.03	482.52				
3.25	1895.45	1806.26	49.92	161.62	484.17				
3.50	1824.10	1859.78	92.63	218.57	485.65				
3.75	1615.74	1719.92	95.38	252.16	486.83				
4.00	1386.05	1500.89	145.23	280.69	487.79				
4.25	1194.86	1290.45	267.21	303.03	488.52				
4.50	1043.18	1119.02	412.99	319.18	489.02				
4.75	923.69	983.43	543.04	329.62	489.35				
5.00	827.87	875.78	624.39	335.66	489.54				
5.25	749.29	788.58	684.53	338.84	489.64				
5.50	684.63	716.96	677.35	339.59	489.67				
5.75	626.31	655.47	672.00	339.19	489.65				
6.00	575.19	604.34	667.72	279.43	487.75				

VOLUME CHECK AT HP= 0.02. COMPUTED HP= 2.57 AT ELEV. 489.67 (STORAGE IS 339.5 AC-FT.= 6.56 IN.)
 TIME= 5.50 HOURS CRITICAL VELOCITY= 5.83 CRITICAL DEPTH= 1.05 CRITICAL SLOPE= 2.28.

PEAK INFLW = 1895. CFS
 TOTAL VOL. THRU EMER SPILLWAY = 152. AC-FT.
 ASCENDING VOL. THRU EMER SPILLWAY = 54. AC-FT.
 PEAK OUTFLOW = 677. CFS
 EXIT CHANNEL VELOCITY = 1.696 AC-FT PER FT. WIDTH
 DURATION OF FLOW= 7.75

NON CRITICAL FLOW
 NON CRITICAL FLOW
 NON CRITICAL FLOW
 5.35 5.40
 5.65 5.77
 5.79 5.94
 5.83 5.99
 5.81 5.97
 NON CRITICAL FLOW

UAM NO. 17-MCNAIRY-CYPRESS CREEK WATERSHED
MCNAIRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

EMER. SP. ROUTING BOTTOM WIDTH= 75.0 ENTRANCE LENGTH= 400.0

TYPE	INFLOW	AVE INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (FS Q ONLY)	V/E
0-25	0.00	0.00	0.00	74.50	477.50		
0-50	0.00	0.00	0.00	74.50	477.50		
0-75	0.00	0.00	0.00	74.50	477.50		
1-00	0.28	0.14	0.24	74.50	477.55		
1-25	3.83	2.06	3.32	74.51	473.11		
1-50	18.32	11.07	5.36	74.65	476.49		
1-75	57.17	37.74	5.67	75.31	478.53		
2-00	147.24	102.20	6.58	77.30	478.07		
2-25	357.69	252.47	8.86	82.35	477.02		
2-50	755.39	556.54	11.61	93.64	479.76		
2-75	1279.78	1017.59	14.88	114.39	430.93		
3-00	1717.07	1498.42	18.63	145.00	482.52		
3-25	1855.45	1806.26	47.92	181.62	484.17		
3-50	1424.10	1859.74	92.63	218.57	485.65		
3-75	1615.74	1719.92	95.38	252.16	486.83		
4-00	1386.05	1500.43	147.73	280.66	487.77		
4-25	1194.86	1290.45	275.29	302.95	488.51		
4-50	1043.18	1119.02	476.05	314.83	489.00		
4-75	923.69	943.43	557.33	328.99	489.43	5.31	5.36
5-00	827.87	845.78	618.65	344.73	489.51	5.60	5.71
5-25	749.29	788.58	676.94	337.43	489.00	5.74	5.87
5-50	684.63	716.96	687.16	338.15	489.62	5.76	5.91
5-75	626.31	655.47	679.07	337.58	489.60	5.74	5.87
6-00	1.94	2.62	118.42	278.20	487.71		

NON	CRITICAL	FLOW
NON	CRITICAL	FLOW
NON	CRITICAL	FLOW
	5.31	5.36
	5.60	5.71
	5.74	5.87
	5.76	5.91
	5.74	5.87
NON	CRITICAL	FLOW

VOLUME CHECK AT HP= 0.00. COMPUTED HP= 2.52 AT ELEV. 489.62 (STORAGE IS 338.1 AC.FT.= 6.53 IN.)
TTP= 5.50 HOURS CRITICAL VELOCITY= 5.76 CRITICAL DEPTH= 1.03 CRITICAL SLOPE= 2.30.

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PEAK INFLOW                = 1095. CFS
TOTAL VOL. THRU EMER SPILLWAY   = 153. AC-FT.
ASCENDING VOL. THRU EMER SPILLWAY = 58. AC-FT.
PEAK OUTFLOW                = 687. CF.
CELESTIAL VELOCITY          = 1.618 AC-FT PER FT. WIDTH
EXIT CHANNEL VELOCITY        = 5.91

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END 1/5

PAGE NO. 78

SUPMARY - RESERVOIR ROUTING PROGRAM

DAM NO. 17-MCNATRY-CYPRESS CREEK WATERSHD
MCNATRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

TYPE	PC	L	ELEV.	MP	STORAGE	Q-TOTAL	Q-EM.SP	V/C	U/C	S/C	S/C.25	DUR-HR	DE/8
ESH	70.	400.	489.89	2.78	346.6	632.3	530.1	6.14	1.17	2.20	3.00	8.25	2.11
	75.	400.	489.83	2.72	344.6	644.7	542.1	6.05	1.14	2.22	3.01	8.00	1.98
	80.	400.	489.77	2.66	342.6	654.4	552.5	5.97	1.10	2.25	3.06	8.00	1.84

DAM NO. 17-MCNATRY-CYPRESS CREEK WATERSHD
MCNATRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

TYPE	PC	L	ELEV.	MP	STORAGE	Q-TOTAL	Q-EM.SP	V/C	U/C	S/C	S/C.25	DUR-HR	DE/8
ESH	85.	400.	489.71	2.60	341.1	666.4	564.7	5.90	1.08	2.26	3.02	7.75	1.78
	90.	400.	489.67	2.57	339.5	677.3	575.6	5.83	1.05	2.28	3.11	7.75	1.69
	95.	400.	489.62	2.52	338.1	687.1	585.5	5.76	1.03	2.30	3.13	7.50	1.61

NOTE - IN ABOVE SUMMARY VC, UC, AND SC WERE COMPUTED FROM Q-EM.SP PER FOOT USING FORMULAS IN T.R.-2 AND T.R.-34.

TITLE1	CAP NO.	17-MCNairy-CYPRESS CREEK WATERSHED			
TITLE2	MCNAIRY COUNTY, TENNESSEE	STRUCTURE CLASS C	01-23-78		
MYCRC	71.	1.41	6.	29.75	.97
SPILLWAY	487.1	1.	2.	2.5	
SPH SIZE	85.	400.	90.	400.	400.
STAGE-CFS	477.5	65.9	0.	0.	0.
STAGE-CFS	477.9	66.	2.	2.	2.
STAGE-CFS	479.	82.1	8.8	8.8	8.8
STAGE-CFS	480.	97.3	12.5	12.5	12.5
STAGE-CFS	482.	134.	17.6	17.6	17.6
STAGE-CFS	483.5	166.	20.6	20.6	20.6
STAGE-CFS	484.	177.5	38.	38.	38.
STAGE-CFS	484.76	195.6	90.4	90.4	90.4
STAGE-CFS	485.	201.	91.	91.	91.
STAGE-CFS	486.	224.	93.5	93.5	93.5
STAGE-CFS	487.1	240.2	96.	96.	96.
STAGE-CFS	487.6	274.9	97.1	97.1	97.1
STAGE-CFS	488.1	289.8	98.3	98.3	98.3
STAGE-CFS	488.6	305.0	99.4	99.4	99.4
STAGE-CFS	489.1	321.9	100.5	100.5	100.5
STAGE-CFS	490.	350.	102.4	102.4	102.4
STAGE-CFS	491.	381.	105.	105.	105.
STAGE-CFS	492.5	428.	108.	108.	108.

END TABLE

COMPUTED DISCHARGE FOR CASE 1.

ELEV= 477.50	STORAGE=	65.9	1ST DISCH=	0.0	2ND DISCH=	0.0	3RD DISCH=	0.0
ELEV= 477.90	STORAGE=	66.0	1ST DISCH=	2.0	2ND DISCH=	2.0	3RD DISCH=	2.0
ELEV= 479.00	STORAGE=	62.1	1ST DISCH=	8.8	2ND DISCH=	8.8	3RD DISCH=	8.8
ELEV= 480.00	STORAGE=	97.3	1ST DISCH=	12.5	2ND DISCH=	12.5	3RD DISCH=	12.5
ELEV= 482.00	STORAGE=	134.0	1ST DISCH=	17.6	2ND DISCH=	17.6	3RD DISCH=	17.6
ELEV= 483.50	STORAGE=	166.0	1ST DISCH=	20.6	2ND DISCH=	20.6	3RD DISCH=	20.6
ELEV= 484.00	STORAGE=	177.5	1ST DISCH=	38.0	2ND DISCH=	38.0	3RD DISCH=	38.0
ELEV= 484.76	STORAGE=	195.6	1ST DISCH=	90.4	2ND DISCH=	90.4	3RD DISCH=	90.4
ELEV= 485.00	STORAGE=	201.0	1ST DISCH=	91.0	2ND DISCH=	91.0	3RD DISCH=	91.0
ELEV= 486.00	STORAGE=	228.0	1ST DISCH=	93.5	2ND DISCH=	93.5	3RD DISCH=	93.5
ELEV= 487.10	STORAGE=	260.2	1ST DISCH=	96.0	2ND DISCH=	96.0	3RD DISCH=	96.0
ELEV= 487.60	STORAGE=	274.9	1ST DISCH=	122.8	2ND DISCH=	124.3	3RD DISCH=	125.8
ELEV= 488.10	STORAGE=	289.8	1ST DISCH=	173.6	2ND DISCH=	178.0	3RD DISCH=	182.3
ELEV= 488.60	STORAGE=	305.8	1ST DISCH=	275.4	2ND DISCH=	285.4	3RD DISCH=	295.4
ELEV= 489.10	STORAGE=	321.9	1ST DISCH=	420.8	2ND DISCH=	438.8	3RD DISCH=	456.8
ELEV= 490.00	STORAGE=	350.0	1ST DISCH=	780.3	2ND DISCH=	817.7	3RD DISCH=	855.0
ELEV= 491.00	STORAGE=	381.0	1ST DISCH=	1333.6	2ND DISCH=	1397.2	3RD DISCH=	1464.0
ELEV= 492.50	STORAGE=	428.0	1ST DISCH=	2456.3	2ND DISCH=	2578.9	3RD DISCH=	2701.4

DAM NO. 17-MCNAIRY-CYPRESS CREEK WATERSHED
MCNAIRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

PAGE NO. 81

FREEBOARD UNCONTROLLED AREA HYDROGRAPH.

MUNIFF = 29.35 IN., VOL. = 1311. AC.FT.

TIME +	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75
0.00 +	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00 +	1036.78	1813.90	3102.02	4667.17	5844.30	6172.17	5749.60	4960.81
4.00 +	6166.14	3527.40	4031.46	2647.48	2345.43	2102.46	1905.63	1731.71
6.00 +	1584.14	1446.30	1265.14	1008.98	734.74	493.76	316.50	207.09
8.00 +	135.69	88.11	56.99	36.62	23.36	14.70	8.96	5.25
10.00 +	2.48	1.31	0.33	0.00				

FREEBUARD ROUTING BOTTOM WIDTH= 85.0 ENTRANCE LENGTH= 400.0

TIME	INFLOW	AVE INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (ES Q ONLY)	V/E
0.25	0.00	0.00	0.00	65.90	477.50		
0.50	0.60	0.30	0.10	65.91	477.52		
0.75	16.26	5.43	1.93	66.00	477.89		
1.00	48.85	29.56	2.24	66.56	477.94		
1.25	148.15	98.50	3.07	68.54	478.07		
1.50	329.74	238.94	5.12	73.40	478.41		
1.75	609.54	469.66	9.01	82.95	479.06		
2.00	1038.78	824.19	12.84	99.76	480.13		
2.25	1813.90	1426.34	16.39	124.92	481.72		
2.50	3102.02	2457.96	42.61	179.09	484.07		
2.75	4667.17	3884.60	95.82	257.92	487.02		
3.00	5844.30	5255.74	892.79	356.30	490.20	6.57	6.92
3.25	6172.17	6008.24	2798.07	442.31	492.96	9.71	11.04
3.50	5749.60	5960.88	4050.04	494.72	494.63	10.92	12.72
3.75	4960.81	5355.20	4566.98	516.35	495.32	11.33	13.30
4.00	4166.14	4563.48	4565.42	516.30	495.32	11.33	13.30
8.00	135.69	171.39	570.63	333.60	489.47	5.55	5.65
12.00	0.00	0.00	108.20	266.86	487.13	NON CRITICAL	FLOW

VOLUME CHECK AT MP= 0.74. COMPUTED MP= 8.21 AT ELEV. 495.32 (STORAGE IS 516.3 AC.-FT.= 9.98 IN.)
 TIME= 3.75 HOURS CRITICAL VELOCITY= 11.33 CRITICAL DEPTH= 1.99 CRITICAL SLOPE= 1.46.

PEAK INFLOW = 6172. CFS
 TOTAL VOL. THRU EMER SPILLWAY = 1026. AC.-FT.
 ASCENDING VOL. THRU EMER SPILLWAY = 245. AC.-FT.
 PEAK OUTFLOW = 4566. CFS
 EXIT CHANNEL VELOCITY = 13.30

DURATION OF FLOW= 9.75

WARNING: * SOME ELEVATIONS AND STORAGE QUANTITIES WERE EXTRAPOLATED USING THE LAST TWO VALUES FROM EACH ELEVATION AND STORAGE LIST IN THE INPUT ELEVATION-STORAGE TABLE.

FREEDBOARD ROUTING BOTTOM WIDTH= 90.0 ENTRANCE LENGTH= 400.0

TIME	INFLOW	AVE INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (ES J ONLY)	V/E
0.25	0.00	0.00	0.00	65.90	477.50		
0.50	0.60	0.30	0.10	65.91	477.52		
0.75	10.26	5.43	1.93	66.00	477.89		
1.00	48.85	29.56	2.24	66.56	477.94		
1.25	148.15	98.30	3.07	68.54	478.07		
1.50	325.74	238.94	5.12	73.40	478.41		
1.75	609.59	469.66	9.01	87.95	479.06		
2.00	1038.72	824.19	12.84	95.76	480.13		
2.25	1813.90	1426.34	16.89	128.92	481.72		
2.50	3102.02	2457.96	42.61	179.09	484.07		
2.75	4487.17	3884.60	95.82	257.92	487.02		
3.00	5844.30	5255.74	928.97	355.92	490.14	6.55	6.89
3.25	6172.17	6008.24	2894.14	440.57	492.90	7.66	10.37
3.50	5749.60	5960.88	4156.45	490.89	494.51	10.84	12.61
3.75	4960.81	5355.20	4649.92	510.56	495.13	11.23	13.15
4.00	4166.14	4563.48	4614.33	509.14	495.09	11.20	13.11
8.00	135.69	171.39	561.21	330.97	489.39	5.42	5.48
12.00	0.00	0.00	108.44	265.61	487.28	NON CRITICAL FLOW	

VOLUME CHECK AT HP= 0.62. COMPUTED HP= 8.02 AT FLEV. 495.13 (STORAGE IS 510.5 AC-FT. 9.86 IN.)
 TYPE= 3.75 HOURS CRITICAL VELOCITY= 11.23 CRITICAL DEPTH= 3.92 CRITICAL SLOPE= 1.47.

PEAK INFLOW = 6172. CFS
 TOTAL VOL. THRU EMER SPILLWAY = 1028. AC-FT.
 ASCENDING VOL. THRU EMER SPILLWAY = 251. AC-FT.
 PEAK OUTFLOW = 4649. CFS
 EXIT CHANNEL VELOCITY = 13.15
 DURATION OF FLOW= 9.50

WARNING: SOME ELEVATIONS AND STORAGE QUANTITIES WERE EXTRAPOLATED USING THE LAST TWO VALUES FROM EACH ELEVATION AND STORAGE LIST IN THE INPUT ELEVATION-STORAGE TABLE.

FREEDBOARD ROUTING									
BOTTOM WIDTH= 95.0				ENTRANCE LENGTH= 400.0					
TIME	INFLOW	AVE INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (ES Q ONLY)	V/E		
0.25	0.00	0.00	0.00	65.90	477.50				
0.50	0.60	0.30	0.10	15.91	477.52				
0.75	10.26	5.43	1.91	66.00	477.89				
1.00	48.85	29.56	2.24	66.56	477.94				
1.25	148.15	98.50	3.37	68.54	478.01				
1.50	329.74	238.94	5.12	73.40	478.41				
1.75	609.59	449.66	9.01	82.95	479.06				
2.00	1038.78	824.19	12.84	99.76	480.13				
2.25	1813.90	1426.34	16.85	128.92	481.72				
2.50	3142.02	2457.96	42.61	179.09	484.07				
2.75	4667.17	3884.60	95.82	247.92	487.02				
3.00	5844.30	5255.74	96.57	355.54	490.18	6.53	6.87		
3.25	6172.17	6008.24	2987.18	438.87	492.85	9.61	10.91		
3.50	5749.60	5960.88	4257.76	487.19	494.39	10.77	12.50		
3.75	4960.61	5355.20	4726.19	505.03	494.96	11.13	13.01		
4.00	4166.14	4563.48	4656.70	502.39	494.87	11.08	12.93		
8.00	135.69	171.39	549.63	328.44	489.31	5.28	5.12		
12.00	0.00	0.00	104.60	264.43	487.24	DOWN CRITICAL FLOW			

VOLUME CHECK AT MP= 0.47. COMPUTED HP= 7.85 AT ELEV. 494.96 (STORAGE IS 505.0 AC.-FT., 9.76 IN.)
 TIME= 3.75 HOURS CRITICAL VELOCITY= 11.13 CRITICAL UPIN= 3.85 CRITICAL SLOPE= 1.48.

PEAK INFLOW = 6172. CFS
 TOTAL VOL. THRU EMER SPILLWAY = 1029. AC.-FT.
 ASCENDING VOL. THRU EMER SPILLWAY = 258. AC.-FT.
 PEAK OUTFLOW = 4726. CFS
 CL/8 = 10.836 AC.-FT PER FT. WIDTH
 EXIT CHANNEL VELOCITY = 13.01

DURATION OF FLOW= 9.50

WARNING: * SOME ELEVATIONS AND STORAGE QUANTITIES WERE EXTRAPOLATED USING THE LAST TWO
 VALUES FROM EACH ELEVATION AND STORAGE LIST IN THE INPUT ELEVATION-STORAGE TABLE.

TITLE1	DAM NO. 17-MCNATRY-CYPRESS CREEK WATERSHED				
TITLE2	MCNATRY COUNTY, TENNESSEE		STRUCTURE CLASS C 01-23-78		
MYLRC	71.	1.41	6.	29.75	.97
SPILLWAY	487.1	1.	2.	3.	2.5
SPR. SIZE	70.	100.	75.	400.	400.
STAGE-CFS	477.5	65.9	0.	C.	0.
STAGE-CFS	477.9	66.	2.	2.	2.
STAGE-CFS	479.	82.1	8.8	8.8	8.8
STAGE-CFS	480.	97.3	12.5	12.5	12.5
STAGE-CFS	482.	134.	17.6	17.6	17.6
STAGE-CFS	483.5	166.	20.6	20.6	20.6
STAGE-CFS	484.	177.5	38.	38.	38.
STAGE-CFS	484.76	195.6	90.4	90.4	90.4
STAGE-CFS	485.	201.	91.	91.	91.
STAGE-CFS	486.	228.	93.5	93.5	93.5
STAGE-CFS	487.1	260.2	96.	96.	96.
STAGE-CFS	487.6	274.9	97.1	97.1	97.1
STAGE-CFS	488.1	289.8	98.3	98.3	98.3
STAGE-CFS	488.6	305.8	99.4	99.4	99.4
STAGE-CFS	489.1	321.9	100.5	100.5	100.5
STAGE-CFS	490.	350.	102.6	102.6	102.6
STAGE-CFS	491.	381.	105.	105.	105.
STAGE-CFS	492.5	428.	108.	108.	108.

END TABLE

COMPUTED DISCHARGE FOR CASE 1.

ELEV= 477.50	STORAGE= 65.9	1ST DISCH= 0.0	2ND DISCH= 0.0	3RD DISCH= 0.0
ELEV= 477.90	STORAGE= 66.0	1ST DISCH= 2.0	2ND DISCH= 2.0	3RD DISCH= 2.0
ELEV= 479.00	STORAGE= 82.1	1ST DISCH= 8.8	2ND DISCH= 8.8	3RD DISCH= 8.8
ELEV= 480.00	STORAGE= 97.3	1ST DISCH= 12.5	2ND DISCH= 12.5	3RD DISCH= 12.5
ELEV= 482.00	STORAGE= 134.0	1ST DISCH= 17.6	2ND DISCH= 17.6	3RD DISCH= 17.6
ELEV= 483.50	STORAGE= 166.0	1ST DISCH= 20.6	2ND DISCH= 20.6	3RD DISCH= 20.6
ELEV= 484.00	STORAGE= 177.5	1ST DISCH= 38.0	2ND DISCH= 38.0	3RD DISCH= 38.0
ELEV= 484.76	STORAGE= 195.6	1ST DISCH= 90.4	2ND DISCH= 90.4	3RD DISCH= 90.4
ELEV= 485.00	STORAGE= 201.0	1ST DISCH= 91.0	2ND DISCH= 91.0	3RD DISCH= 91.0
ELEV= 486.00	STORAGE= 228.0	1ST DISCH= 93.5	2ND DISCH= 93.5	3RD DISCH= 93.5
ELEV= 487.10	STORAGE= 260.2	1ST DISCH= 96.0	2ND DISCH= 96.0	3RD DISCH= 96.0
ELEV= 487.60	STORAGE= 274.9	1ST DISCH= 110.3	2ND DISCH= 110.3	3RD DISCH= 110.3
ELEV= 488.10	STORAGE= 289.8	1ST DISCH= 160.6	2ND DISCH= 160.6	3RD DISCH= 160.6
ELEV= 488.60	STORAGE= 305.8	1ST DISCH= 245.3	2ND DISCH= 245.3	3RD DISCH= 245.3
ELEV= 489.10	STORAGE= 321.9	1ST DISCH= 366.8	2ND DISCH= 366.8	3RD DISCH= 366.8
ELEV= 490.00	STORAGE= 350.0	1ST DISCH= 668.3	2ND DISCH= 668.3	3RD DISCH= 668.3
ELEV= 491.00	STORAGE= 381.0	1ST DISCH= 1135.0	2ND DISCH= 1135.0	3RD DISCH= 1135.0
ELEV= 492.50	STORAGE= 422.0	1ST DISCH= 2088.4	2ND DISCH= 2088.4	3RD DISCH= 2088.4

FREEBOARD UNCONTROLLED AREA HYDROGRAPH.

RUNOFF = 25.35 IN. VOL. = 1311. AC.FT.

TIME	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75
0.00	0.00	0.00	0.60	10.26	48.85	1-8.15	329.74	609.59
2.00	1038.78	1813.90	3102.02	4667.17	5844.30	6172.17	5749.60	4960.81
4.00	4166.14	3527.40	3031.46	2647.48	2345.43	2102.46	1905.63	1731.71
6.00	1984.14	1446.30	1265.14	1008.88	734.94	493.76	316.50	207.09
8.00	135.69	88.11	56.99	36.62	23.36	14.70	8.96	5.25
10.00	2.88	1.31	0.33	0.00				

FREEDHARD ROUTING BOTTOM WIDTH= 70.0 ENTRANCE LENGTH= 400.0

TIME	INFLOW	AVE INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (ES Q ONLY)	V/E
0.25	0.00	0.00	0.00	55.90	477.50		
0.50	0.60	0.30	0.10	65.91	477.52		
0.75	10.26	5.43	1.93	66.00	477.89		
1.00	48.85	29.56	2.24	66.56	477.94		
1.25	148.15	98.50	3.07	68.54	478.07		
1.50	329.74	239.54	5.12	73.40	478.41		
1.75	609.59	469.66	9.01	82.95	479.06		
2.00	1038.78	824.19	12.84	99.74	480.13		
2.25	1813.40	1426.34	16.89	128.92	481.72		
2.50	3162.02	2457.96	42.61	179.09	484.07		
2.75	4667.17	3884.60	95.82	247.92	487.02		
3.00	5844.30	5255.74	780.64	357.46	490.24	6.64	7.00
3.25	6172.17	6008.74	2490.40	447.80	493.13	9.65	11.24
3.50	5749.60	5960.88	3693.10	507.08	495.02	11.15	13.04
3.75	4960.81	5355.20	4267.11	535.47	495.93	11.65	13.75
4.00	4166.14	4563.48	4171.13	540.50	496.09	11.74	13.87
4.25	3527.40	3846.77	4189.41	531.54	495.80	11.59	13.65
4.50	2811.11	3111.90	501.28	334.43	489.50	5.40	5.71
4.75	0.00	0.00	109.75	269.22	487.41	NON CRITICAL	FLOW

VOLUME CHECK AT HP= 0.39. COMPUTED HP= 8.98 AT ELEV. 496.09 (STORAGE IS 540.5 AC-FT.=10.44 IN.)
TYPE= 4.00 MOUNDS CRITICAL VELOCITY= 11.74 CRITICAL DEPTH= 4.28 CRITICAL SLOPE= 1.43.

PEAK INFLOW = 6172. CFS
TOTAL VOL. THRU EMER SPILLWAY = 1022. AC-FT.
ASCENDING VOL. THRU EMER SPILLWAY = 310. AC-FT.
PEAK OUTFLOW = 4371. CFS
EXIT CHANNEL VELOCITY = 14.601 AC-FT PER FT. WIDTH
DURATION OF FLOW= 10.25

WARNING: * SOME ELEVATIONS AND STORAGE QUANTITIES WERE EXTRAPOLATED USING THE LAST TWO VALUES FROM EACH ELEVATION AND STORAGE LIST IN THE INPUT ELEVATION-STORAGE TABLE.

FREEDMAN ROUTING BOTTOM WIDTH= 75.0 ENTRANCE LENGTH= 400.0

TIME	INFLOW	AVE INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (ES 0 ONLY)	V/E
0.25	0.00	0.00	0.00	65.90	477.50		
0.50	0.60	0.30	0.10	65.91	477.52		
0.75	10.26	5.43	1.93	66.00	477.89		
1.00	48.85	29.56	2.24	66.56	477.94		
1.25	148.15	98.50	3.07	68.54	478.07		
1.50	329.74	238.94	5.12	73.40	478.41		
1.75	602.59	469.66	9.01	82.95	479.06		
2.00	1038.78	826.19	12.84	99.76	480.13		
2.25	1813.90	1426.34	16.89	128.92	481.72		
2.50	3102.02	2457.96	42.61	179.09	484.07		
2.75	4667.17	3886.60	95.82	257.92	487.02		
3.00	5844.38	5255.74	818.64	357.06	490.23	6.62	6.97
3.25	6172.17	6008.24	2596.33	445.92	493.07	9.80	11.18
3.50	5749.60	5960.88	3818.72	502.81	494.89	11.07	12.93
3.75	4960.81	5355.20	4376.95	528.79	495.72	11.55	13.60
4.00	4166.14	4563.48	4444.72	531.94	495.82	11.60	13.67
4.25	3527.40	3846.77	4227.48	521.83	495.49	11.42	13.42
4.50	88.11	111.90	489.78	331.09	489.39	5.43	5.50
4.75	0.00	0.00	107.99	267.57	487.35		
5.00							

NON CRITICAL FLOW

VOLUME CHECK AT MP= 0.54. COMPUTED MP= 8.71 AT ELEV. 495.82 STORAGE IS 531.9 AC.FT.=10.28 IN.)
 TIME= 4.00 HOURS CRITICAL VELOCITY= 11.60 CRITICAL DEPTH= 4.18 CRITICAL SLOPE= 1.44.

PEAK INFLOW = 6172. CFS
 TOTAL VOL. THRU EXER SPILLWAY = 1023. AC-FT.
 ASCENDING VOL. THRU EXER SPILLWAY = 320. AC-FT.
 PEAK OUTFLOW = 4444. CFS
 CE/B = 13.651 AC-FT PER FT. WIDTH
 EXIT CHANNEL VELOCITY = 13.67

DURATION OF FLOW= 10.00

WARNING: SOME ELEVATIONS AND STORAGE QUANTITIES WERE EXTRAPOLATED USING THE LAST TWO
 VALUES FROM EACH ELEVATION AND STORAGE LIST IN THE INPUT ELEVATION-STORAGE TABLE.

PRELIMINARY RATING		BOTTOM WIDTH= 80.0		ENTRANCE LENGTH= 400.0		STORAGE	ELEVATION	V/C (ES Q ONLY)	V/L
TIME	INFLW	AVE INFLW	OUTFLW	0.00	0.00				
0.25	0.00	0.00	0.00	0.00	0.00	65.90	477.50		
0.50	0.60	0.30	0.10	0.10	0.10	65.91	477.52		
0.75	16.26	5.43	1.93	1.93	1.93	66.00	477.53		
1.00	48.85	29.56	2.24	2.24	2.24	66.56	477.94		
1.25	148.15	76.50	3.07	3.07	3.07	68.56	478.07		
1.50	329.74	238.94	5.12	5.12	5.12	73.40	478.41		
1.75	609.59	469.66	9.01	9.01	9.01	82.95	479.06		
2.00	1036.78	824.19	12.84	12.84	12.84	99.76	480.13		
2.25	1415.20	1426.34	16.95	16.95	16.95	128.92	481.72		
2.50	3102.02	2457.96	42.61	42.61	42.61	179.00	484.07		
2.75	4667.17	3884.60	95.82	95.82	95.82	247.92	487.02		
3.00	5844.30	5255.74	856.02	856.02	856.02	356.68	470.22	6.60	6.95
3.25	6172.17	6008.24	2698.84	2698.84	2698.84	444.09	473.01	9.76	11.11
3.50	5749.60	5960.88	3737.58	3737.58	3737.58	498.69	474.76	10.99	12.82
3.75	4980.81	5355.20	4475.91	4475.91	4475.91	522.42	475.51	11.44	13.45
4.00	4166.14	4563.48	4509.17	4509.17	4509.17	523.89	475.56	11.47	13.49
4.25	1527.40	3646.77	4257.63	4257.63	4257.63	512.80	475.21	11.26	13.20
4.50	88.11	111.90	476.57	476.57	476.57	327.97	489.29	5.26	5.10
4.75	0.00	0.00	106.09	106.09	106.09	266.04	487.30	NON CRITICAL	FLUM

VOLUME CHECK AT HP= 0.66. COMPUTED HP= 8.46 AT ELEV. 495.56 (STORAGE IS 523.8 AC-FT.=10.12 IN.)
 TYPE= 4.00 HOURS CRITICAL VELOCITY= 11.47 CRITICAL DEPTH= 4.09 CRITICAL SLOPE= 1.45.

PEAK INFLC= 6172. CFS
 TOTAL VOL. THRU ENTER SPILLWAY = 1025. AC-FT.
 ASCENDING VCL. THRU ENTER SPILLWAY = 329. AC-FT.
 PEAK OUTFLC= 4509. CFS
 CE/P = 12.818 AC-FT PER FT. WIDTH
 EXIT CHANNEL VELOCITY = 13.49

DURATION OF FLOW= 9.75

WARNING: * SOME ELEVATIONS AND STORAGE QUANTITIES WERE EXTRAPOLATED USING THE LAST TWO
 VALUES FROM EACH ELEVATION AND STORAGE LIST IN THE INPUT ELEVATION-STORAGE TABLE.

ENL W/S

PAGE NO. 91

SUMMARY - RESERVOIR ROUTING PROGRAM

DAM NO. 17-MCNAIRY-CYPRESS CREEK WATERSHED
MCNAIRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

TYPE	BC	L	ELEV.	MP	STORAGE	Q-TOTAL	Q-EM-SP	V/C	D/C	S/C	S/C-25	DUR-HR	OE/B
FB+	85.	400.	495.32	8.21	516.3	4566.6	4453.0	11.33	3.97	1.44	1.90	9.75	12.08
	90.	400.	495.13	8.02	510.5	4649.9	4536.6	11.23	3.92	1.47	2.00	9.50	11.42
	95.	400.	494.96	7.85	505.0	4726.1	4613.2	11.13	3.85	1.48	2.02	9.50	10.83

DAM NO. 17-MCNAIRY-CYPRESS CREEK WATERSHED
MCNAIRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

TYPE	PC	L	ELEV.	MP	STORAGE	Q-TOTAL	Q-EM-SP	V/C	D/C	S/C	S/C-25	DUR-HR	OE/B
FEM	70.	400.	496.09	8.98	540.5	4371.1	4255.9	11.74	4.28	1.43	1.95	10.25	14.60
	75.	400.	495.82	8.71	531.9	4446.7	4330.0	11.60	4.18	1.44	1.96	10.00	13.65
	80.	400.	495.56	8.46	523.8	4509.1	4395.0	11.47	4.09	1.45	1.98	9.75	12.81

NOTE - IN ABOVE SUMMARY VC, LC, AND SC WERE COMPUTED FROM (Q-EM-SP) PER FOOT USING FORMULAS IN I.R.-2 AND I.R.-39.

APPENDIX G
CORRESPONDENCE

pg. ____ of ____

MAY 20 1981

In accordance with the provisions of Tennessee Code Annotated Section 70-2505 and Rules and Regulations applied to the Safe Dam Act of 1973, application is hereby made to:

Applicant Owner McNairy County Commission Telephone 901-645-3472

Mailing Address McNairy County Commission
P. O. Box 188, Salmer, TN. 38375

Legal Address McNairy County Courthouse, Selmer, TN.

Note: All owners must be listed. (attach Form 75-013 for additions).

Maximum Height: 34.1 ft. Crest: length 987 ft. width 18 ft.
Drainage Area: 621 acres Freeboard at normal pool: 9.5 ft.
Reservoir Surface Area: 13 acres (normal pool)
33 acres (maximum) pool
Reservoir Storage Capacity: 60 acre-ft. (normal pool)
440.7 acre-ft. (maximum) pool
Type Emergency Spillway Earth Capacity 4,582.56 cfs
Purpose of dam and reservoir Floodwater detention & Sediment storage.
Location: (attach USGS Topographic Map showing location of dam,
reservoir surface area, and property boundaries of owners.)
USGS Map No. AMS3256 Dam centerline: Latitude 88° 32' 23"
1 NE Series V841 Longitude 35° 10' 03"
PUDY - 4NE

Date _____ Signed _____
By William H. Cook an individual or other official name
County of San Diego official directly responsible
for the official title

***** Office Use Only *****

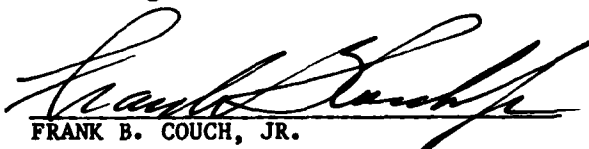
CN-0337


ORNED-G


NON-FEDERAL DAM INSPECTION REVIEW BOARD
PO BOX 1070
NASHVILLE, TENNESSEE 37202


Commander, Nashville District
US Army Corps of Engineers
PO Box 1070
Nashville, TN 37202

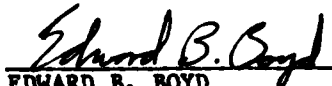
1. The Interagency Review Board, appointed by the Commander on 19 June 1981, presents the following recommendations after meeting on 27 August 1981, to consider the Phase I investigation report on McNairy Cypress Creek Watershed Dam No. 17, inspected by the Tennessee Department of Conservation.
2. All vehicles should be prohibited from driving on the embankment.
3. The design routing attached to the report is to be verified to assure that present conditions are reflected in the computations.
4. The Board is in agreement with other report conclusions and recommendations following minor revisions.



FRANK B. COUCH, JR.
Chief, Geotechnical Branch
Chairman


BOBBY G. MOORE
Assistant State Conservation Engineer
Alternate, Soil Conservation Service


EDMOND B. O'NEILL
Alternate, Division of Water Resources
State of Tennessee


THOMAS N. PORTER
Hydraulic Engineer
Alternate, Hydrology and Hydraulics
Branch


EDWARD B. BOYD
Hydrologic Technician
Alternate, US Geological Survey


JAMES GUNNELS
Structural Engineer
Alternate, Design Branch

DATE
LME
-8